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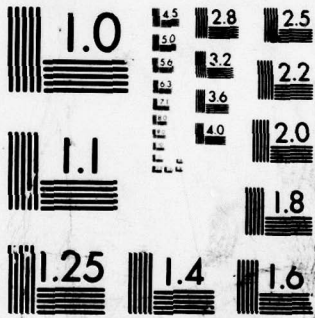
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AMRL-TR-75-50  
Volume 138



**USAF BIOENVIRONMENTAL NOISE  
DATA HANDBOOK  
Volume 138  
F-102A Aircraft, Near and Far-Field Noise**

**LEVEL III**

October 1978

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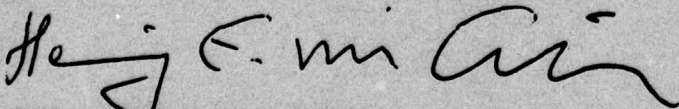
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FOR THE COMMANDER



HENNING E. VON GIERKE

Director

Biodynamics and Bioengineering Division  
Aerospace Medical Research Laboratory



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The USAF F-102A is a remotely controlled aircraft and was a supersonic all-weather fighter-interceptor aircraft powered by one J57-P-23 turbojet engine. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for five engine-power conditions. Near-field data are reported for six locations in a wide variety of physical and psychoacoustic measures: overall		

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and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

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## PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Assess Environmental Quality of Noise, from Air Force Operations. The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Harald Hille for his assistance in acquiring the raw data, Mr. Henry Mohlman, Mr. Keith Kettler and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing and Mrs. Peggy Massie for typing and assistance in preparation of the graphics.

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## INTRODUCTION

The USAF F-102A is a remotely controlled aircraft powered by a J57-P-23 turbojet engine. The aircraft was manufactured by the General Dynamics Corporation and the engine by United Aircraft, Pratt and Whitney Division.

This volume provided measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the F-102A aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH 1975

## NEAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired near-field noise data on the F-102A aircraft during ground runup operations of its turbojet engines. For these tests, the aircraft was located on a concrete trim pad at Tyndall AFB. Table 1 gives the surface meteorological conditions and the engine power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance and engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location.

Figure 1 shows the six numbered near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test conditions A.

### RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-102A aircraft at the six ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.



**TABLE 1**  
**MEASUREMENT LOCATIONS AND TEST CONDITIONS**  
**FOR NEAR-FIELD NOISE MEASUREMENTS**

**F-102A Aircraft, Ground Runup, Tyndall AFB,**  
**8 June 1978**  
**Tail #62317**

***Ground Crew Location***

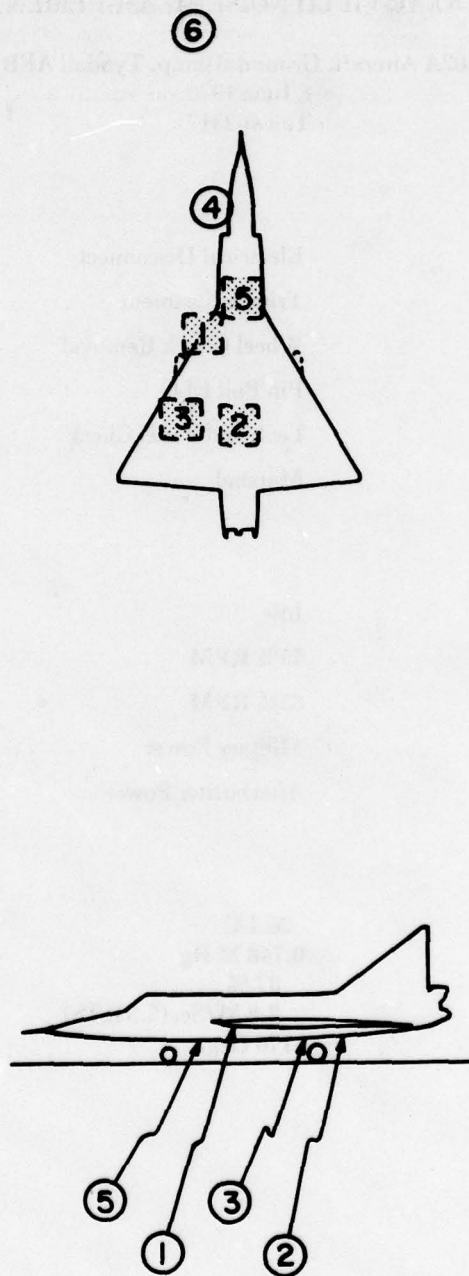
1	Electrical Disconnect
2	Trim Adjustment
3	Wheel Chock Removal
4	Pin Pull FLG
5	Leak and Panel Check
6	Marshal

***Aircraft Engine Operation***

A	Idle
B	75% RPM
C	85% RPM
D	Military Power
E	Afterburner Power

***Meteorology***

Temperature	26.1 C
Bar Pressure	0.748 M Hg
Rel Humidity	87 %
Wind — Speed	2.8 M/Sec(5.5 KTS)
— Direction	170 Deg.



**Figure 1. Near-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL**

## **FAR-FIELD NOISE**

### **MEASUREMENTS**

AMRL acquired far-field data during a one hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J57-P-23 engine was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engine exhaust nozzle exit. The ground runup area did not have a blast deflector; therefore, the engine's exhaust was in a "free-flow" condition.

Table 4 provides cockpit readouts of some engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

### **RESULTS**

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-102A aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure which describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.



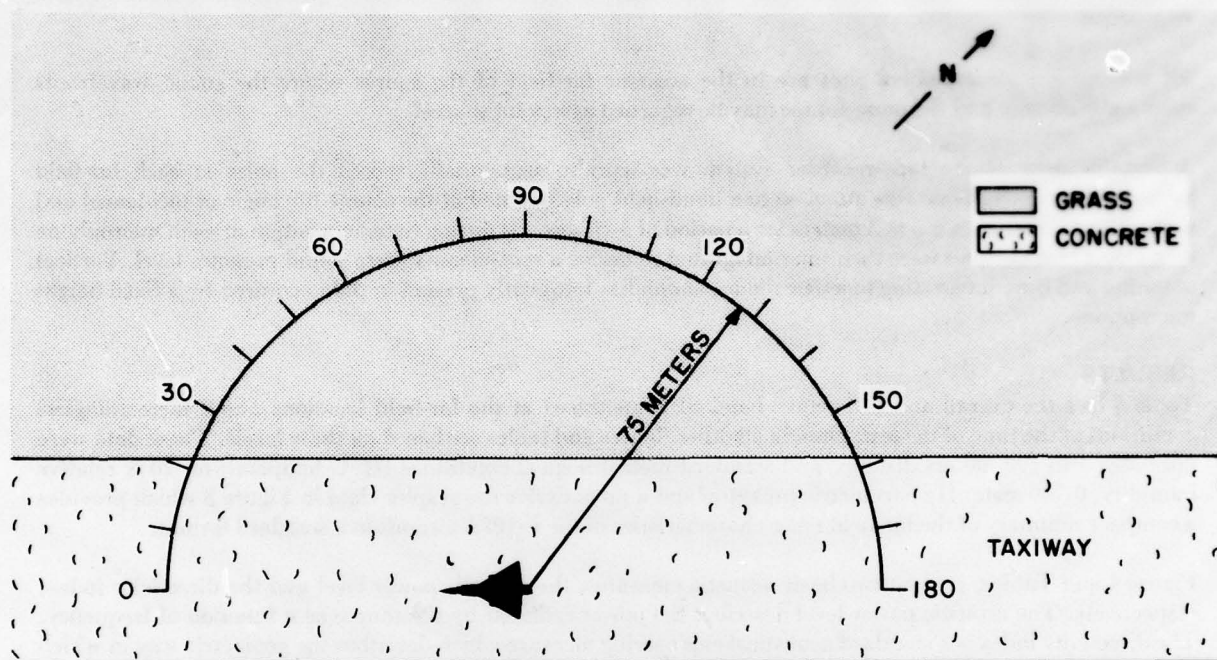


Figure 2. Far-Field Measurement Locations on the Remote Trim Pad at Tyndall AFB FL

Estimates of noise characteristics for intermediate power settings (e.g., 88% engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Except for idle power condition no data are presented at the 170 and 180 degree locations because of turbulent air flow behind the aircraft. Typical A-weighted levels for these angles are 10 to 20 dBA below those at the 160 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.





TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATION:									
2											
NOISE SOURCE/SUBJECT:		OMEGA 3-2									
		TEST 78-012-001									
		RUN 81									
		18 JAN 79									
		PAGE J1									
F-102A AIRCRAFT											
GROUND CREW											
NEAR FIELD NOISE LEVELS											
		LOCATION/CONDITION									
FREQ (HZ)		1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A
31.5	83	96	92	93	95	94	97	101	105	116	
63	82	93	90	90	91	97	100	104	110	119	
125	81	91	92	94	94	107	102	107	116	123	
250	83	94	91	91	91	99	99	106	116	123	
500	88	91	91	92	96	98	104	109	121	124	
1000	91	93	94	96	101	103	110	109	124	126	
2000	94	94	92	93	94	104	114	111	119	124	
4000	96	90	88	90	92	103	109	109	117	122	
8000	91	84	82	85	86	98	106	108	115	118	
OVERALL	100	102	101	102	105	112	117	117	128	132	

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:	
3										OMEGA 3.2	
NOISE SOURCE/SUBJECT:										TEST 78-012-001	
( OPERATION:										RUN 01	
F-102A AIRCRAFT										18 JAN 79	
GROUND CREW										PAGE H1	
NEAR FIELD NOISE LEVELS											
LOCATION/CONDITION											
1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A		
HAZARD/PROTECTION											
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR											
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR											
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)											
NO PROTECTION											
OASLC	99	101	100	101	104	111	117	117	120	132	
OASLA	100	99	98	100	103	110	118	116	127	131	
T	30	36	42	30	18	5	P	P	P	P	
MINIMUM QPL EAR MUFFS											
OASLA*	73	76	75	76	78	87	90	92	102	107	
T	960	960	960	960	960	285	170	120	21	9	
AMERICAN OPTICAL 1700 EAR MUFFS											
OASLA*	67	71	71	72	73	82	85	87	96	102	
T	960	960	960	960	960	679	404	285	60	21	
V-51R EAR PLUGS											
OASLA*	71	73	73	74	78	82	89	89	102	105	
T	960	960	960	960	960	679	202	202	21	13	
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS											
OASLA*	58	59	59	61	65	69	76	76	88	91	
T	960	960	960	960	960	960	960	960	240	143	
H-133 GROUND COMMUNICATION UNIT											
OASLA*	73	72	71	73	76	83	90	88	99	103	
T	960	960	960	960	960	571	170	240	36	18	
COMMUNICATION											
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)											
PSIL	91	93	92	94	97	102	109	110	121	125	
ANNOYANCE											
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)											
TONE CORRECTION (C IN DB)											
PNLT	115	115	113	115	116	126	133	132	140	144	
C	1	2	1	2	1	2	3	2	1	0	

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.  
P ADDITIONAL EAR PROTECTION REQUIRED.

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.  
P ADDITIONAL EAR PROTECTION REQUIRED.



**TABLE 4**

**TEST CONDITIONS  
FOR FAR-FIELD NOISE MEASUREMENTS  
F-102A Aircraft, Ground Runups, Tyndall AFB TX  
8 June 1978  
Tail #62317**

***Aircraft Engine Operation***

<b>Idle</b>	<b>57 % RPM</b> <b>Not Available   Engine Pressure Ratio</b> <b>320 C, Fan Exhaust Gas Temperature</b> <b>1100 LBS/HR, Fuel Flow</b>
<b>75% RPM</b>	<b>75 % RPM, NC</b> <b>1.19 EPR</b> <b>320 C, EGT</b> <b>2000 LBS/HR, FF</b>
<b>85% RPM</b>	<b>85 % RPM, NC</b> <b>1.43 EPR</b> <b>398 C, EGT</b> <b>3500 LBS/HR, FF</b>
<b>Military Power</b>	<b>96 % RPM, NC</b> <b>2.13 EPR</b> <b>600 C, EGT</b> <b>8500 LBS/HR, FF</b>
<b>Afterburner Power</b>	<b>96 % RPM</b> <b>2.14 EPR</b> <b>610 C, EGT</b> <b>8500 LBS/HR, FF (Plus Afterburner)</b>

***Meteorology***

<b>Temperature</b>	<b>26.1 C</b>
<b>Bar Pressure</b>	<b>0.748 M Hg</b>
<b>Rel Humidity</b>	<b>87 %</b>
<b>Wind — Speed</b>	<b>2.8 M/Sec (5.5 Kts)</b>
<b>— Direction</b>	<b>170 Deg.</b>

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
OPERATION:																
METEOROLOGY:																
TEMP = 26 C																
BAR PRESS = .748 M HG																
REL HUMID = 87 %																
PAGE 2																
IDENTIFICATION:																
OMEGA 1.4																
TEST 78-012-001																
RUN 01																
18 SEP 78																
FREQ																
ANGLE (DEGREES)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
25	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
31.5	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
40	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
50	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
63	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
80	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
100	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
125	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
160	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
200	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
250	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
315	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
400	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
500	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
630	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
800	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
1000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
1250	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
1600	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
2000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
2500	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
3150	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
4000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
5000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
6300	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
8000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
10000	64<	63<	63<	64<	65<	65<	64<	64<	64<	65<	66<	65<	67<	68<	69<	68<
OVERALL	85	85	83	82	82	81	79	78	77	78	81	82	83	84	84	83
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:		
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																	OMEGA 1.4		
NOISE SOURCE/SUBJECT:																	TEST 78-012-001		
( OPERATION:																	RUN 02		
( F-102A AIRCRAFT																			
( J57-P-23A ENGINE																	18 SEP 78		
( FAR FIELD NOISE																	PAGE 2		
METEOROLOGY:																			
TEMP = 26 C																			
BAR PRESS = 748 M HG																			
REL HUMID = 87 %																			
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	64<	63<	63<	66<	64<	65<	63<	66<	65<	67<	70<	71<	73<	75	76	79	81		
31.5	63<	64<	63<	65<	66<	67<	65<	67<	69<	72	73	75	77	79	82	84	83		
40						68<	67<	67<	67<	71<	74<	75<	76<	79	82	85	85		
50	66<	67<	67<	70<	70<	70<	70<	71<	73<	76	77	78	80	83	85	88	88		
63					68<	69<	68<	69<	71<	74<	75<	76<	78<	81	84	87	86		
80	71<	71<	71<	72<	70<	73<	71<	73<	73<	77<	78<	79<	81	82	86	89	88		
100	72<	73<	74<	76<	74<	75<	74<	74<	76<	77<	78<	80<	81	83	85	88	88		
125	72<	73<	76	75	74	76	75	75	76	78	80	80	81	84	83	86	85		
160	73	74	76	75	76	76	76	76	77	80	82	83	84	86	84	84	84		
200	72	74	75	75	75	76	75	76	76	77	81	81	83	84	83	79	80		
250	73	75	76	76	74	76	75	76	76	78	80	81	82	82	82	78	78		
315	71	74	74	74	74	74	74	75	74	76	79	80	79	79	75	75	75		
400	78	77	78	76	75	75	75	75	73	74	77	77	76	73	72	73	73		
500	75	75	76	75	74	74	74	74	72	70	72	74	72	71	71	70	70		
630	72	73	74	74	74	73	72	70	67	69	68	67	68	69	69	67	67		
800	76	76	75	74	73	73	71	69	67	67	66	73	70	70	68	66	68		
1000	78	77	76	74	74	73	71	68	68	68	72	76	74	72	69	69	66		
1250	83	81	79	77	77	74	72	69	70	71	75	78	76	73	70	71	68		
1600	84	81	79	76	77	73	74	72	72	73	75	77	76	74	71	71	70		
2000	84	83	81	79	78	75	76	73	72	73	75	74	74	74	70	70	70		
2500	85	84	81	81	81	76	76	73	71	73	73	72	71	71	70	69	69		
3150	86	85	83	84	84	79	79	76	71	73	73	74	73	72	70	70	70		
4000	85	85	84	85	85	81	78	76	77	80	84	81	81	79	78	80	82		
5000	82	81	81	81	82	78	75	73	73	76	78	82	81	79	77	77	77		
6300	82	81	81	81	82	78	76	74	69	69	70	71	70	69	69	68	70		
8000	80	80	81	79	81	77	76	74	70	70	72	73	71	68	69	69	71		
10000	77	78	79	77	80	77	75	73	69	69	70	72	70	67	68	68	70		
OVERALL	94	93	92	92	92	90	88	88	87	89	91	92	93	94	94	96	96		
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
( ) IDENTIFICATION:																
( ) OMEGA 1.4																
( ) TEST 78-012-001																
( ) RUN 03																
( ) 18 SEP 78																
( ) PAGE 2																
METEOROLOGY:																
( ) TEMP = 26 C																
( ) BAR PRESS = .748 M HG																
( ) REL HUMID = 87 %																
ANGLE (DEGREES)																
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
(HZ)																
25	66<	66<	67<	68<	69<	69<	69<	70<	71<	77	75	77	79	83	88	89
31.5	67<	68<	69<	69<	70<	70<	70<	73	73	76	76	79	83	88	91	93
40	68<	70<	68<	70<	72<	71<	73<	74<	75<	79	81	83	88	89	94	97
50	73<	72<	72<	72<	75<	75<	75<	77	77	79	83	85	88	91	95	99
63	72<	72<	72<	73<	74<	74<	75<	78<	79	83	83	86	90	94	99	101
80	71<	73<	74<	74<	75<	77<	77<	79<	79<	83	85	87	91	96	101	104
100	76<	76<	76<	78<	79<	80<	80<	82	83	85	86	89	93	98	101	105
125	77	78	79	78	79	81	82	83	83	86	88	90	94	99	101	105
160	79	78	81	79	81	82	83	84	85	88	90	94	96	101	101	104
200	79	80	80	80	82	83	82	84	85	88	90	93	96	98	101	98
250	80	80	80	81	83	83	84	85	86	87	90	93	94	95	97	92
315	78	79	78	79	81	82	83	83	83	87	89	92	93	92	91	91
400	77	79	79	80	81	82	83	84	83	86	87	89	89	86	87	89
500	77	78	79	80	80	81	82	81	81	83	84	85	84	87	86	85
630	77	78	77	79	80	81	81	78	78	79	80	80	82	86	83	81
800	76	78	77	79	80	80	81	75	78	78	82	85	85	87	83	78
1000	76	76	76	79	79	79	79	74	78	79	84	88	86	88	85	78
1250	77	77	76	77	78	78	77	76	79	83	86	89	88	88	85	80
1600	84	81	80	80	79	79	77	79	82	85	86	89	87	86	83	82
2000	94	91	90	90	87	86	84	82	83	84	86	86	87	84	81	78
2500	89	85	85	84	83	81	79	78	80	81	84	85	83	83	80	78
3150	89	86	85	84	83	81	78	78	80	81	83	86	83	83	81	79
4000	97	93	94	92	91	90	84	80	81	81	84	85	83	82	80	79
5000	90	87	87	85	84	83	79	77	79	82	84	84	80	80	80	79
6300	90	87	88	85	84	83	79	77	80	83	88	89	84	83	84	83
8000	87	85	85	83	81	80	76	72	73	76	80	82	79	78	76	75
10000	83	81	80	78	77	76	72	69	70	72	75	77	74	74	75	73
OVERALL	101	98	98	97	96	96	94	94	95	98	100	102	104	107	110	112
																109

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT: ( OPERATION: )																
F-102A AIRCRAFT ( )																
J57-P-23A ENGINE ( )																
FAR FIELD NOISE ( )																
FREQ (HZ)																
ANGLE (DEGREES)																
70 80 90 100 110 120 130 140 150 160 170 180																
25	75	77	77	77	77	79	81	82	85	85	86	88	91	96	100	102
31.5	77	76	79	77	79	80	81	84	86	87	89	89	93	98	104	106
40	76	79	79	81	80	82	86	87	88	89	90	92	97	104	107	109
50	78	80	78	82	82	83	86	88	89	91	94	97	102	106	111	112
63	81	80	83	83	83	84	87	90	91	92	94	96	102	109	114	114
80	82	83	84	85	85	87	89	90	91	93	95	97	104	110	116	117
100	85	87	88	88	89	90	91	91	94	94	97	100	105	111	118	119
125	87	88	89	88	89	90	92	93	94	96	99	102	109	114	115	118
160	89	90	92	90	90	91	95	95	97	98	101	105	112	118	116	120
200	93	92	93	91	93	93	96	96	97	98	101	105	111	119	118	115
250	90	94	92	92	93	94	96	96	97	98	102	105	111	115	119	111
315	88	95	92	92	92	95	97	97	97	99	102	105	110	113	116	114
400	88	95	94	93	93	94	97	97	97	98	101	103	105	106	111	114
500	84	94	92	93	93	94	97	95	95	97	99	101	100	107	111	111
630	87	95	93	94	94	94	95	93	93	95	95	96	98	107	109	108
800	88	96	95	98	96	95	95	92	92	95	95	100	103	107	106	104
1000	82	93	94	97	96	95	96	91	92	95	98	103	105	107	106	104
1250	78	90	90	93	94	93	95	94	95	96	101	104	106	107	108	106
1600	78	89	90	92	93	92	95	95	97	99	102	104	106	106	108	107
2000	80	89	89	90	92	92	94	95	97	99	101	103	104	104	106	105
2500	90	92	92	91	92	91	94	93	96	98	101	102	103	104	104	102
3150	82	88	88	89	91	91	94	94	97	99	100	102	103	103	103	104
4000	77	86	86	87	89	90	93	94	97	99	100	102	102	102	103	102
5000	81	86	86	85	87	88	91	92	94	96	97	99	99	99	101	100
6300	77	82	83	83	85	86	91	91	93	95	96	98	98	99	100	99
8000	75	80	81	81	83	85	89	89	92	94	94	97	97	98	98	93
10000	71	76	77	77	79	81	86	86	88	90	92	94	95	96	97	91
OVERALL	99	105	104	105	105	105	108	107	109	110	113	116	120	125	126	127
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																		IDENTIFICATION:	
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																			
NOISE SOURCE/SUBJECT:																			
( OPERATION:																		METEOROLOGY:	
( AFTERBURNER POWER																		TEMP = 26 C	
( 96% RPM																		BAR PRESS = .748 M HG	
( FREE FLOW																		REL HUMID = 87 %	
FREQ (HZ)																		ANGLE (DEGREES)	
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
25	89	87	90	89	89	91	94	94	93	95	100	104	108	112	113	110			
31.5	90	90	89	91	91	93	96	97	95	94	102	107	111	114	116	111			
40	91	92	91	91	93	94	98	99	97	98	105	111	116	119	116	113			
50	90	91	92	92	93	94	95	99	99	100	109	113	118	121	118	113			
63	91	92	92	94	94	96	100	100	99	102	111	116	122	122	118	113			
80	94	94	93	95	95	96	100	101	102	104	112	118	125	125	120	113			
100	96	95	96	97	97	98	100	101	102	103	107	113	118	124	125	121	114		
125	96	97	98	98	98	99	100	103	104	104	108	117	121	122	125	121	114		
160	99	99	100	99	99	100	101	104	106	106	109	120	126	123	123	122	114		
200	101	99	101	100	101	102	104	106	107	111	119	126	125	121	119	112			
250	100	101	100	101	102	103	104	105	106	108	113	119	123	124	120	114	110		
315	97	102	99	100	100	102	102	105	106	105	111	119	124	120	116	112	107		
400	97	103	101	100	101	103	103	104	104	105	110	116	118	114	112	110	105		
500	94	101	98	99	100	101	102	103	102	102	107	113	115	113	112	108	102		
630	94	100	98	99	99	101	102	101	99	100	104	110	113	114	110	104	98		
800	93	100	99	101	101	101	103	101	100	101	102	114	116	114	109	104	99		
1000	90	96	97	101	100	100	101	100	103	103	106	115	116	112	109	104	100		
1250	87	94	94	98	99	100	101	106	106	106	109	115	116	113	110	104	100		
1600	87	94	94	97	99	99	104	106	109	112	114	116	112	108	103	98			
2000	88	93	93	96	98	98	104	105	109	112	113	115	111	106	102	96			
2500	95	94	93	95	96	98	99	103	105	107	108	112	113	109	105	100	94		
3150	89	92	92	94	96	98	100	103	105	106	107	112	113	109	105	100	95		
4000	86	89	90	92	95	98	99	102	105	105	109	112	112	109	105	100	94		
5000	88	89	88	90	92	96	98	100	102	103	104	109	110	106	102	97	93		
6300	84	85	86	88	90	94	96	98	101	101	104	109	109	106	101	98	94		
8000	82	84	84	86	88	92	94	97	99	99	102	109	108	104	100	96	94		
10000	77	79	80	82	84	88	91	94	97	96	100	107	107	102	98	94	92		
OVERALL	108	111	110	111	112	113	114	116	117	119	122	129	133	133	133	129	123		
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

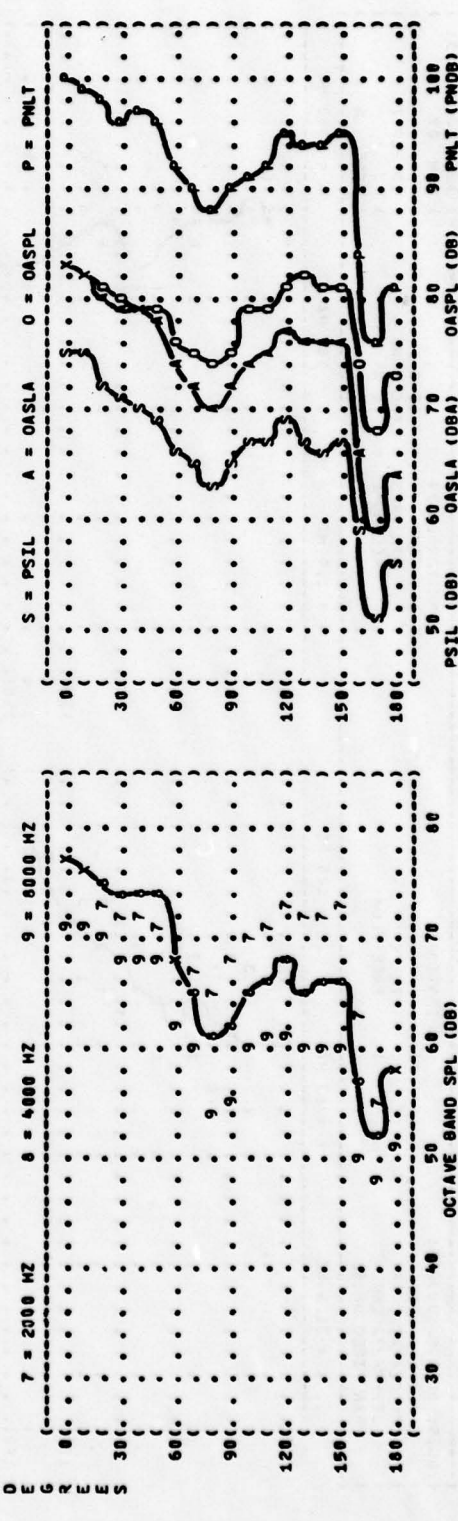
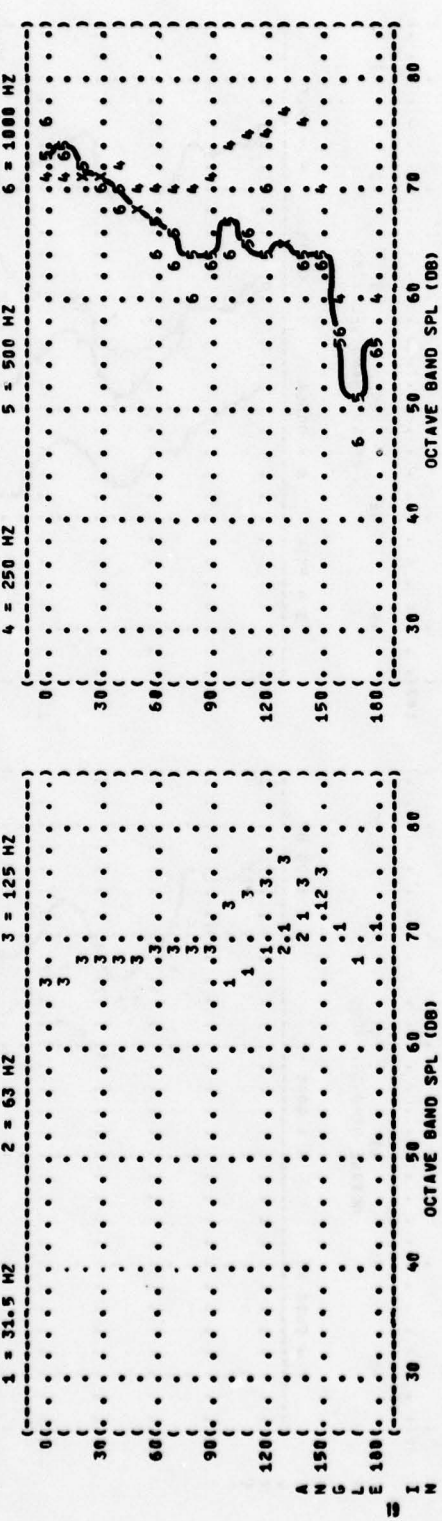
3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE

OPERATION: IDLE  
57% RPM  
FREE FLOW

METEOROLOGY: TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATIONS: OMEGA 1.4  
TEST 78-012-001  
RUN 81  
24 JAN 79  
PAGE 6



### NORMALIZED FARFIELD NOISE LEVELS

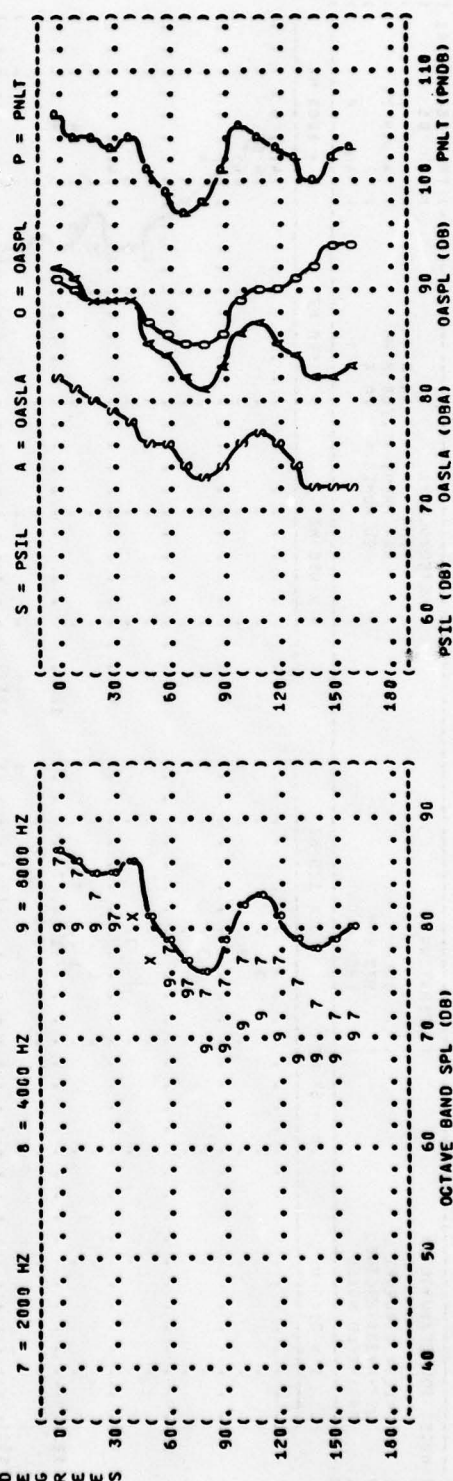
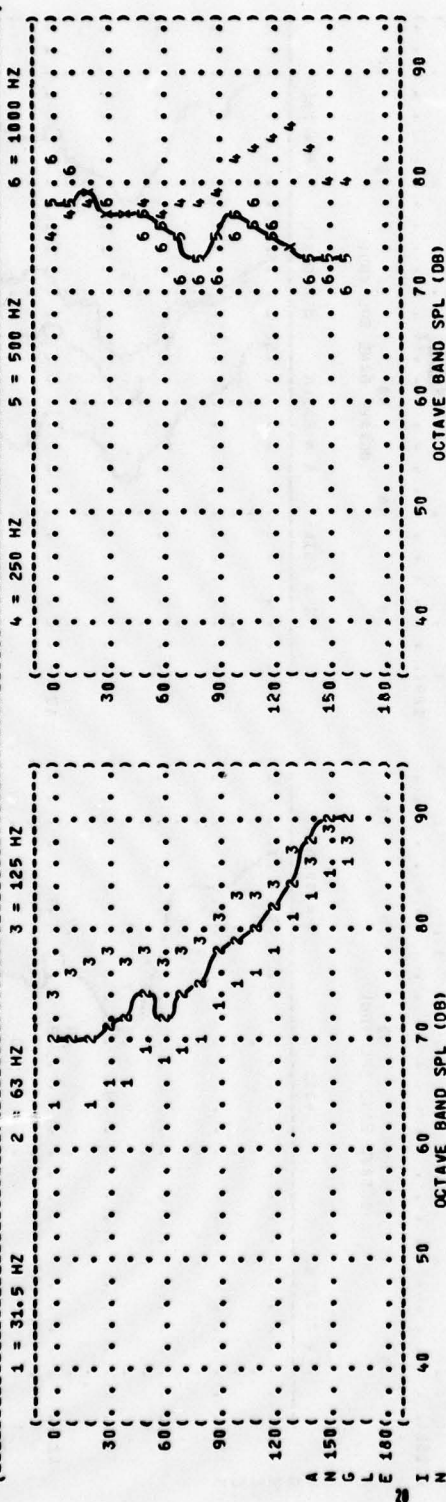
[illegible]



FIGURE 1: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE

OPERATION:

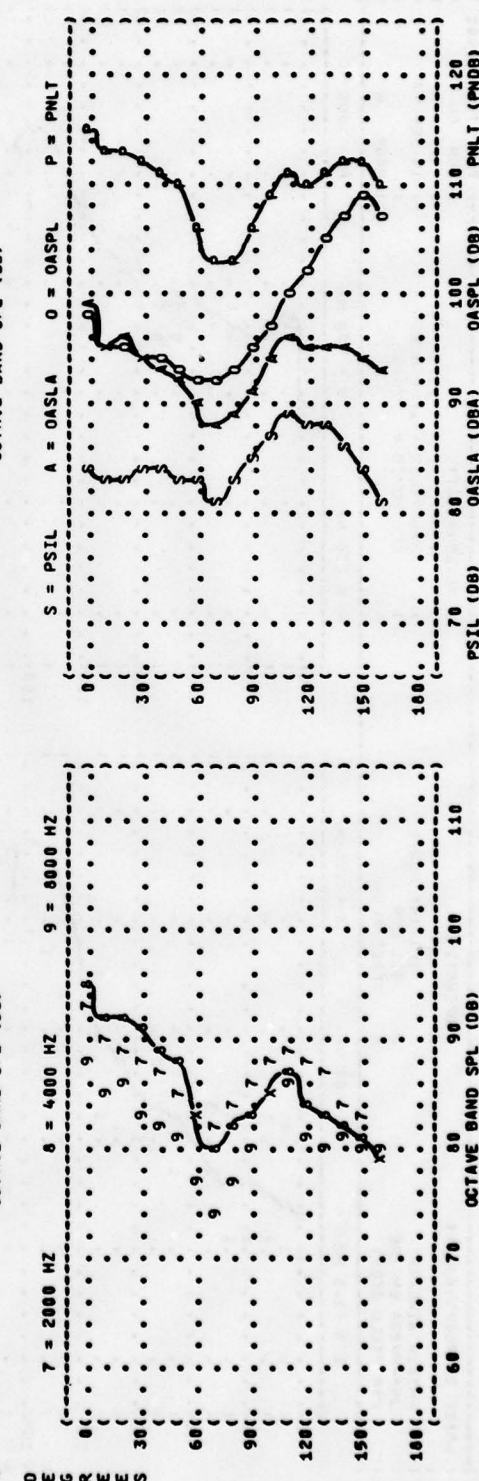
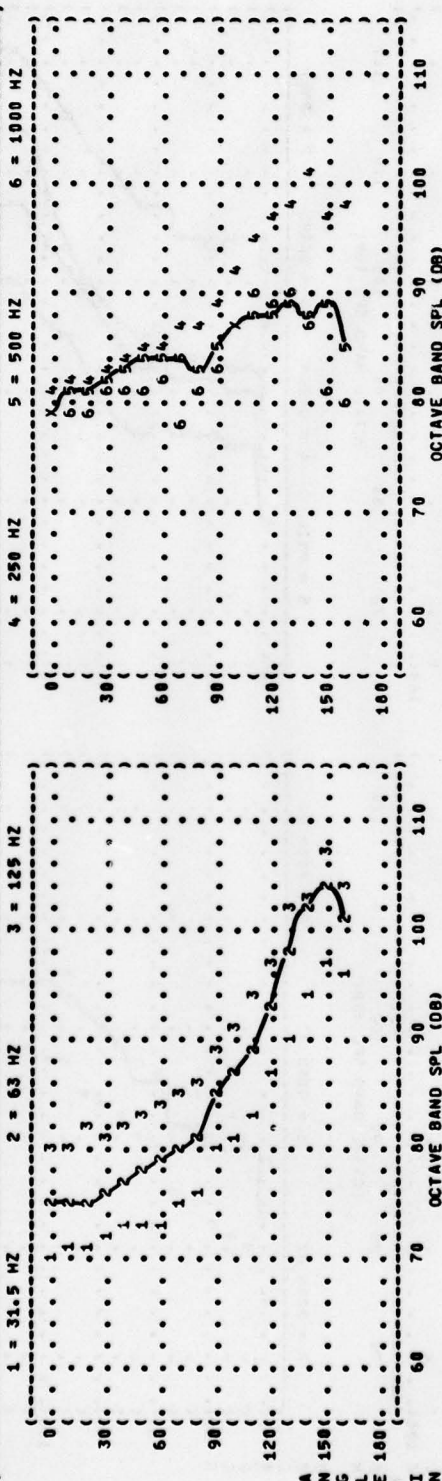
65% RPM  
FREE FLOW

METEOROLOGY:

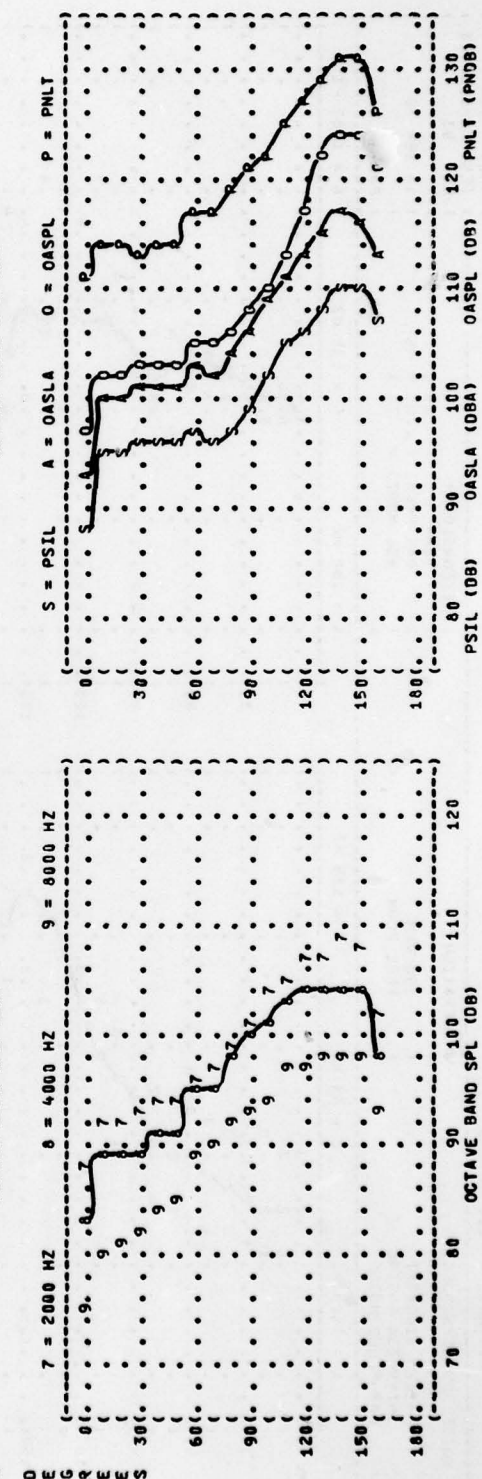
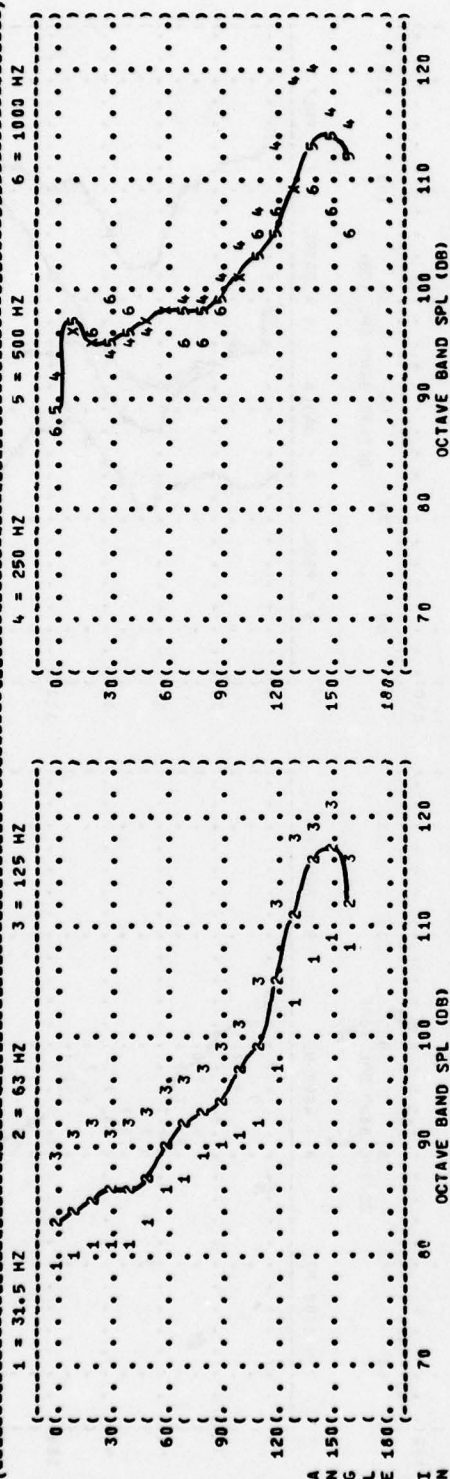
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4  
TEST 78-012-001  
RUN 03  
18 SEP 78  
PAGE 6



( ( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS  
 ( ( 3 DISTANCE = 100 METERS  
 ( ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( ( F-102A AIRCRAFT ( MILITARY POWER  
 ( ( J57-P-23A ENGINE ( 96% RPM  
 ( ( FAR FIELD NOISE ( FREE FLOW  
 ( ( METEOROLOGY: 1 = 15 C  
 ( ( BAR PRESS = .760 M HG  
 ( ( REL HUMID = 70 %  
 ( ( PAGE 6  
 ( ( IDENTIFICATION:  
 ( ( OMEGA 1.4  
 ( ( TEST 76-012-001  
 ( ( RUN 04  
 ( ( 18 SEP 78  
 ( ( 6



A  
 N  
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 E  
 E  
 S

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 78-012-001  
 RUN 05  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 H MG  
 REL HUMID = 70 %  
 18 SEP 78  
 PAGE 6

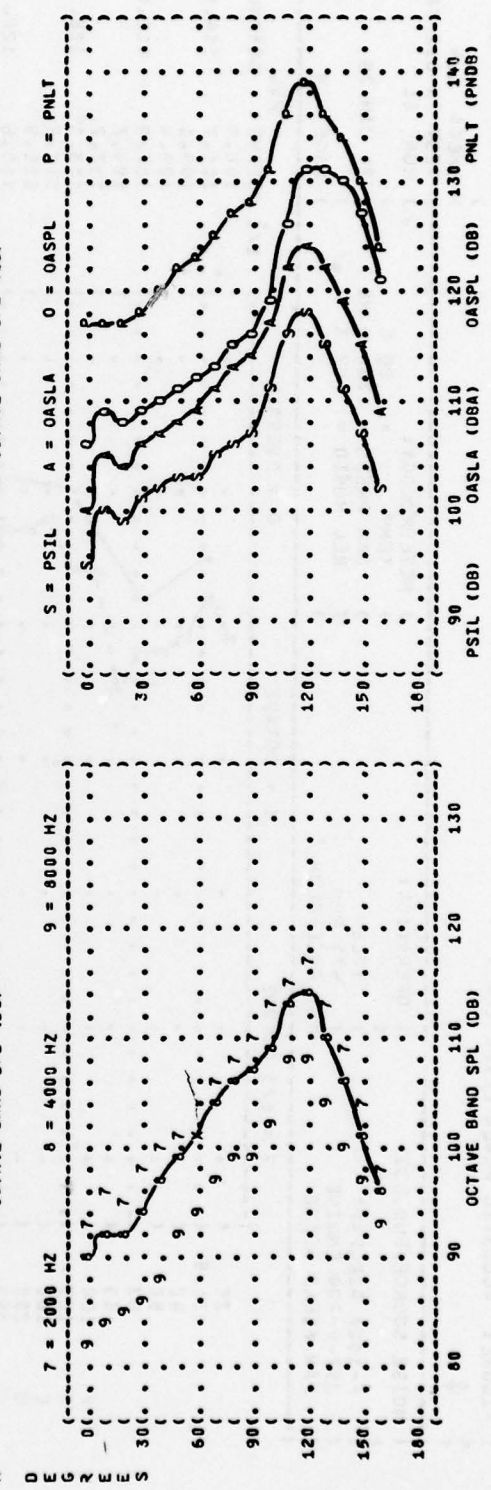
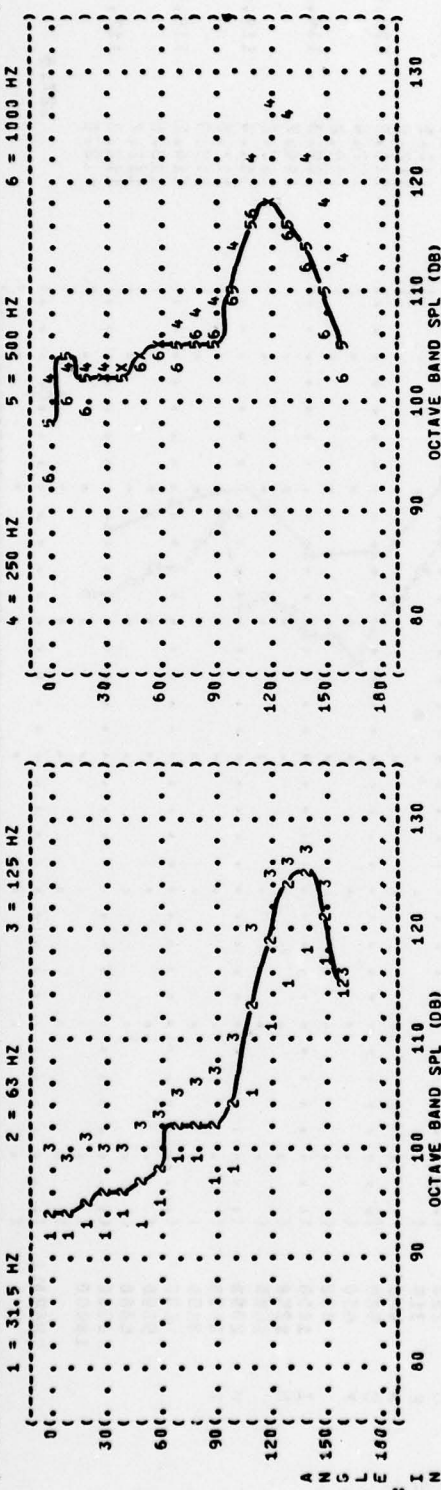




FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATIONS:

OMEGA 1.4

TEST 79-012-001

RUN 01

24 JAN 79

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

METEOROLOGY:

TEMP = 26 C

BAR PRESS = .748 M HG

REL HUMID = 87 %

F-102A AIRCRAFT

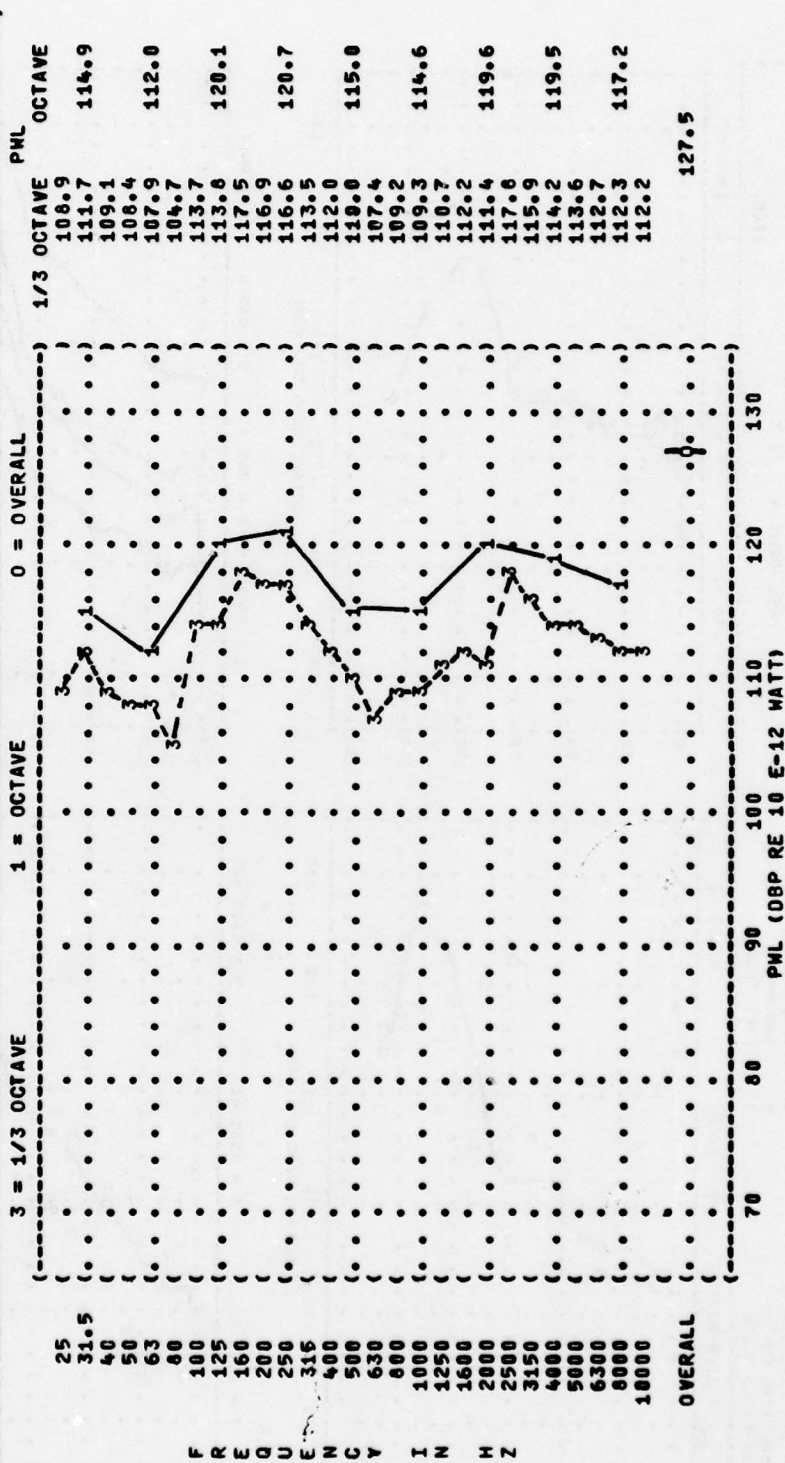
57% RPM

FREE FLOW

3 = 1/3 OCTAVE

1 = OCTAVE

0 = OVERALL



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(-----)
( FIGURE: ACOUSTIC POWER LEVEL (PWL) )
( 4 )
(-----)
( NOISE SOURCE/SUBJECT: )
( ( OPERATION: ) )
( ( F-102A AIRCRAFT ) )
( ( J57-P-23A ENGINE ) )
( ( FAR FIELD NOISE ) )
(-----)
( METEOROLOGY: )
( ( TEMP = 26 C ) )
( ( BAR PRESS = .748 M HG ) )
( ( REL HUMID = 87 % ) )
(-----)
( IDENTIFICATION: )
( ( ) )
( ( OMEGA 1.4 ) )
( ( TEST 78-012-001 ) )
( ( RUN 02 ) )
( ( 24 JAN 79 ) )
( ( ) )
( ( PAGE 3 ) )
(-----)

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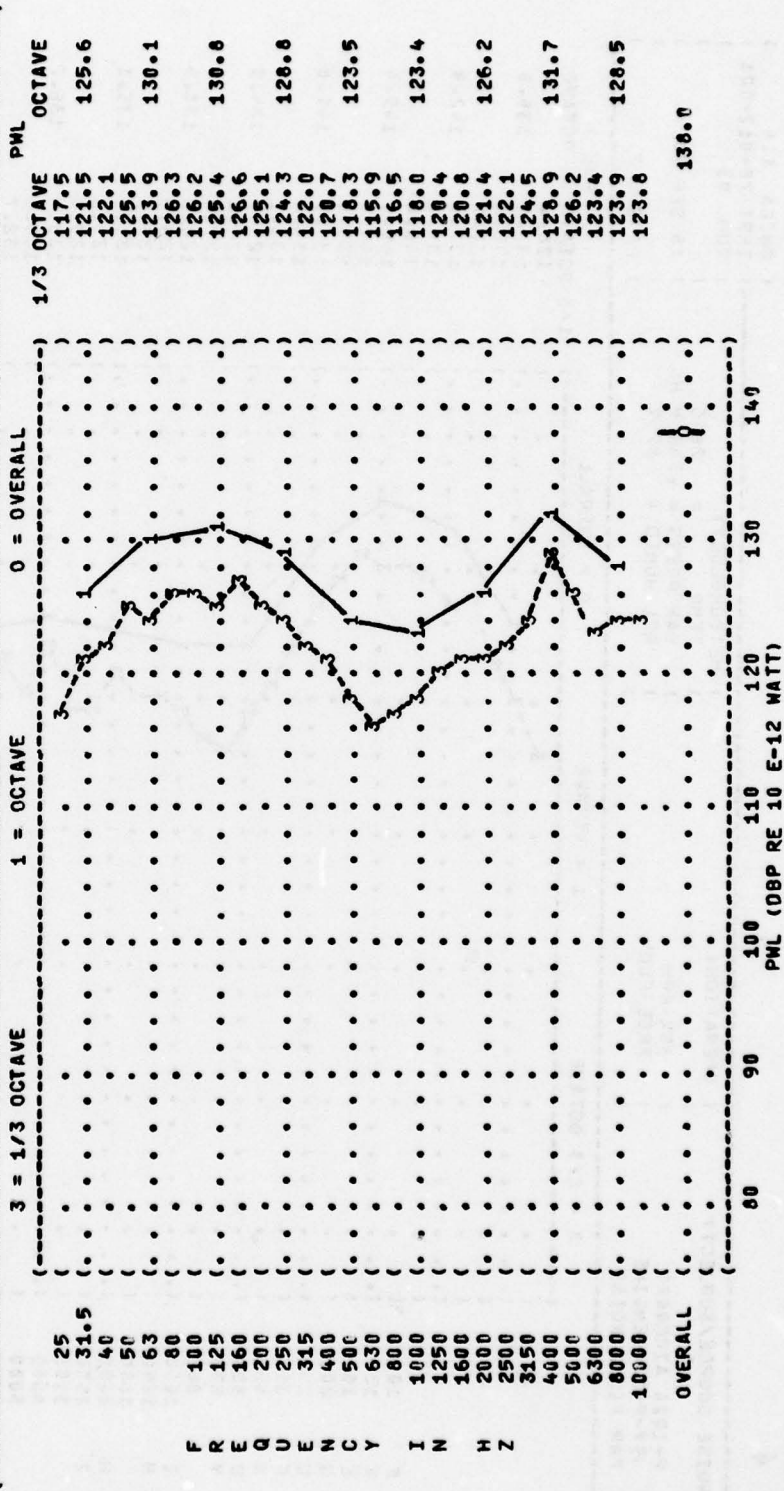


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 78-012-001

RUN 03

18 SEP 78

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

85% RPM

FREE FLOW

METEOROLOGY:

TEMP = 26 C

BAR PRESS = .748 M HG

REL HUMID = 87 %

F-102A AIRCRAFT

J57-P-23A ENGINE

FAR FIELD NOISE

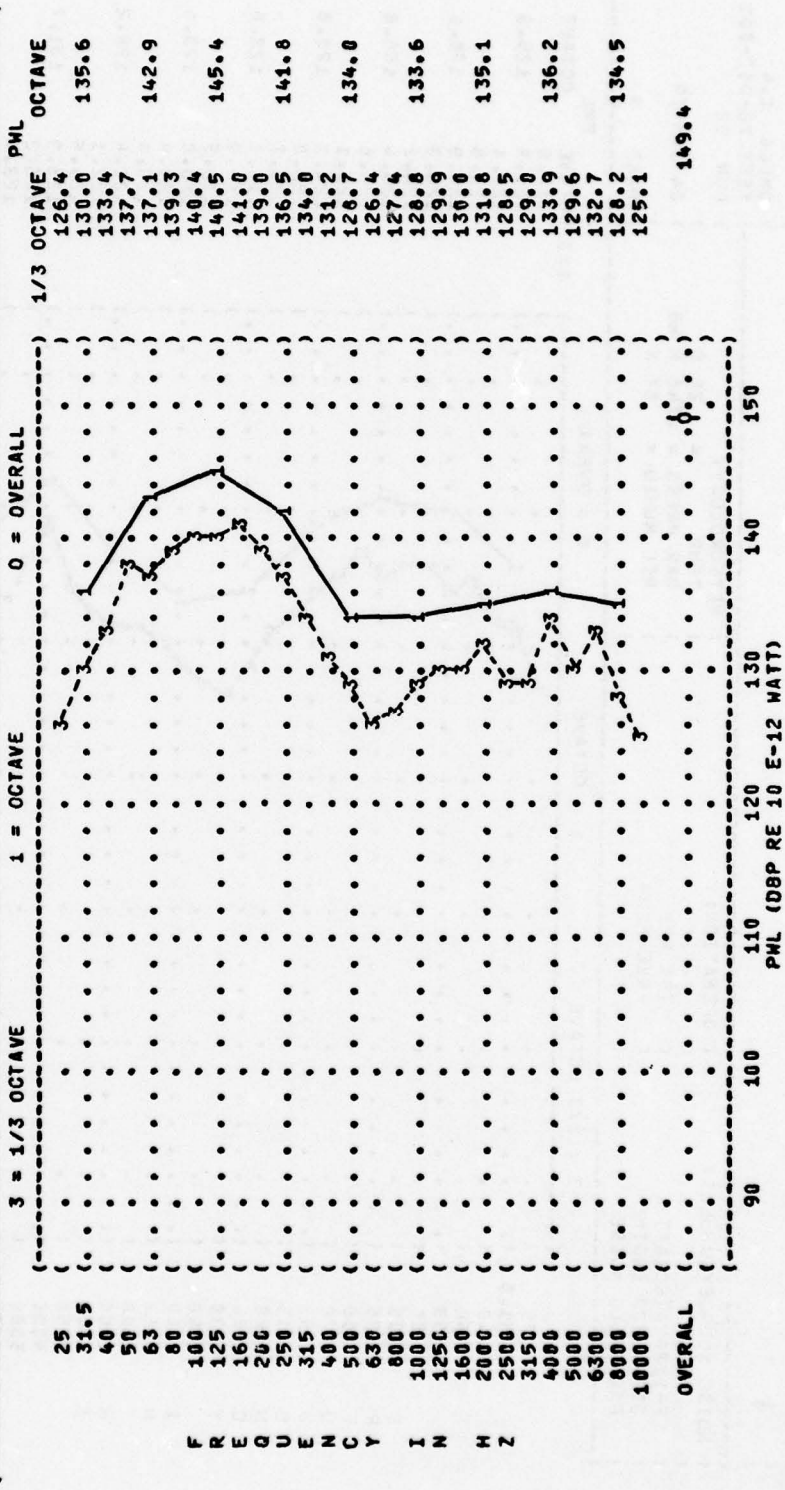




FIGURE 1: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 70-012-001

RUN 04

18 SEP 70

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

MILITARY POWER

96% RPM

FREE FLOW

METEOROLOGY:

TEMP = 26 C

BAR PRESS = .748 M HG

REL HUMID = 87 %

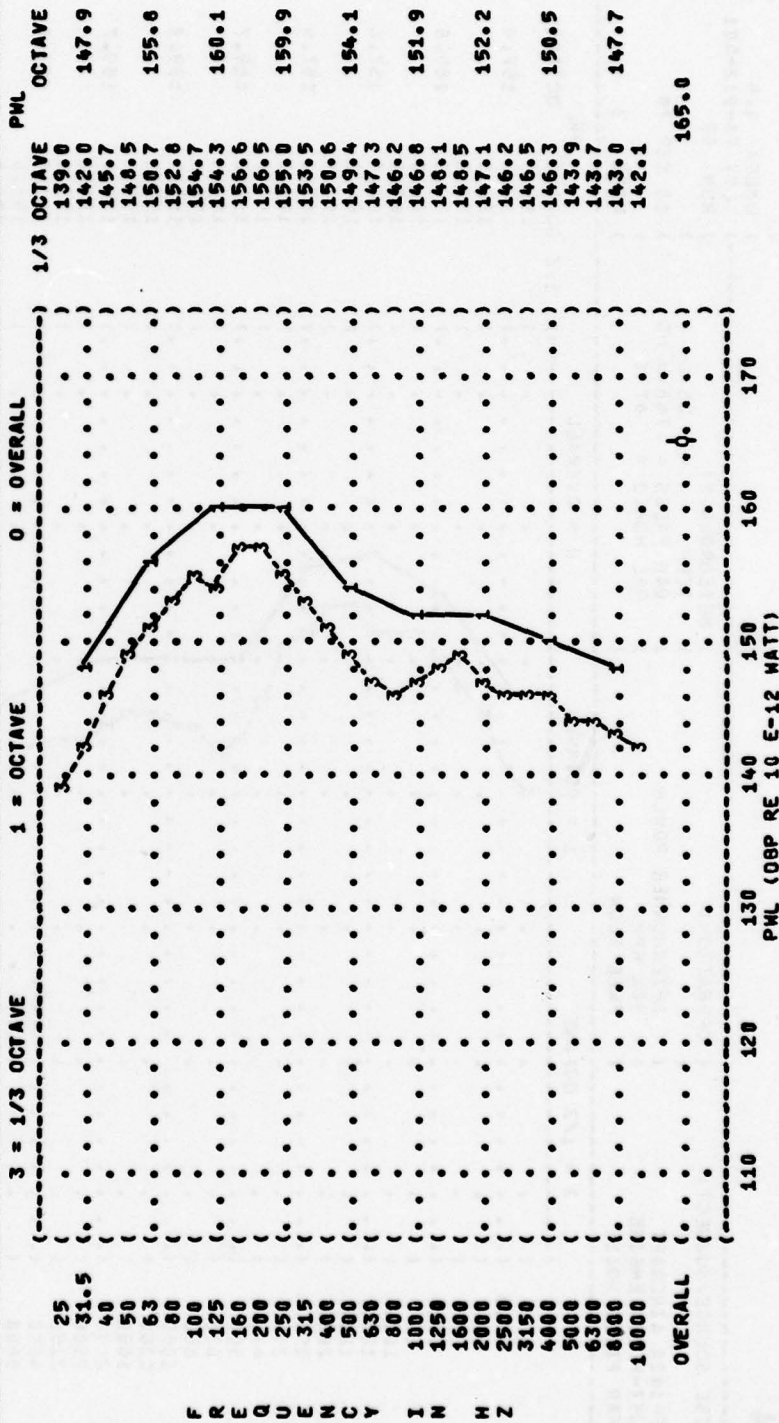


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 78-012-001

RUN 05

18 SEP 78

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

METEOROLOGY:

TEMP = 26 C

AFTERBURNER POWER

BAR PRESS = .748 M HG

96% RPM

REL HUMID = 87 %

FREE FLOW

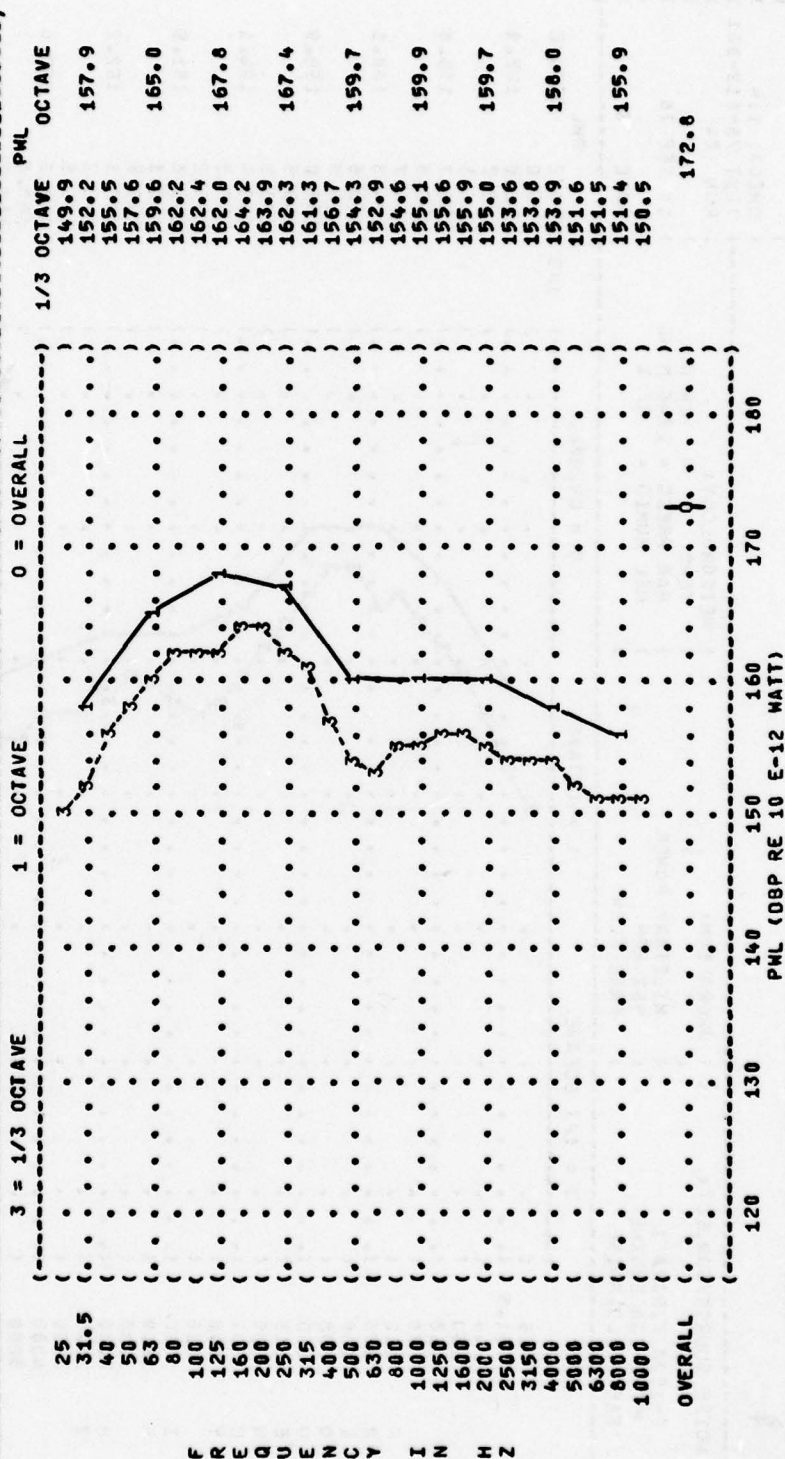




TABLE: DIRECTIVITY INDEX (DB)																								
6																								
NOISE SOURCE/SUBJECT:										OPERATION:					METEOROLOGY:					IDENTIFICATION:				
F-102A AIRCRAFT										IDLE					TEMP = 26 C					OMEGA 1.4				
J57-P-23A ENGINE										57% RPM					BAR PRESS = .748 M HG					TEST 78-012-001				
FAR FIELD NOISE										FREE FLOW					REL HUMID = 87 %					18 SEP 78				
																				PAGE 4				
FREQ (HZ)																								
ANGLE (DEGREES)																								
1/3 OCTAVE																								
25																								
31.5																								
40																								
50																								
63																								
80																								
100																								
125																								
160																								
200																								
250																								
315																								
400																								
500																								
630																								
800																								
1000																								
1250																								
1600																								
2000																								
2500																								
3150																								
4000																								
5000																								
6300																								
8000																								
10000																								
OCTAVE																								
31.5																								
63																								
125																								
250																								
500																								
1000																								
2000																								
4000																								
8000																								
OVERALL																								

TABLE: DIRECTIVITY INDEX (DB)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
F-102A AIRCRAFT																
J57-P-23A ENGINE																
FAR FIELD NOISE																
OPERATIONS:																
75% RPM																
FREE FLOW																
METEOROLOGY:																
TEMP = 26 C																
BAR PRESS = .748 M HG																
REL HUMID = 87 %																
PAGE 4																
OMEGA 1.4																
TEST 76-012-001																
RUN 02																
18 SEP 78																
FREQ (HZ)																
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160 170 180
ANGLE (DEGREES)																
1/3 OCTAVE																
25	-8	-9	-6	-8	-7	-9	-6	-7	-5	-3	-1	1	3	4	5	7 8
31.5	-13	-12	-11	-10	-9	-11	-9	-7	-5	-4	-2	1	3	5	8	7 9
40	-14	-13	-10	-10	-9	-10	-10	-9	-6	-3	-2	0	3	5	8	8 9
50	-10	-10	-9	-10	-7	-9	-9	-8	-4	-3	-2	-1	3	5	8	8 8
63	-9	-8	-7	-5	-4	-7	-6	-5	-4	-3	-2	0	1	5	8	7 7
80	-8	-7	-4	-5	-5	-6	-4	-4	-2	0	2	1	4	5	6	5 5
100	-9	-8	-6	-6	-5	-6	-3	-4	-2	1	2	2	4	4	3	2 2
125	-7	-5	-4	-5	-4	-5	-4	-3	-2	1	2	3	5	3	3	1 1
160	-6	-4	-3	-3	-4	-3	-2	-3	-1	1	2	3	3	3	3	-1
200	-5	-3	-2	-2	-3	-2	-2	-2	0	2	4	3	2	-2	-2	-1
250	2	1	3	3	2	0	0	0	1	2	2	1	-2	-3	-2	-2
315	3	3	4	4	2	1	1	1	2	2	-1	-2	-2	-1	-1	-1
400	5	5	5	4	2	2	2	2	0	2	-3	-2	-2	-1	-2	-2
500	6	6	6	4	2	2	2	2	-1	-2	-2	-1	-1	-1	-3	-3
630	8	8	6	4	3	3	3	3	-1	-4	4	2	0	-4	-3	-6
800	9	9	6	5	2	1	1	1	-1	-3	3	2	-1	-4	-3	-5
1000	9	9	6	5	1	1	1	1	-2	-3	2	1	-1	-5	-6	-5
1250	8	7	5	4	0	0	0	0	-4	-4	1	1	-2	-6	-7	-7
1600	9	9	6	6	6	6	6	6	-5	-5	0	0	-5	-8	-7	-8
2000	9	9	6	6	5	5	5	5	-6	-6	3	3	-3	-3	-2	0
2500	8	7	5	4	4	4	4	4	-7	-7	4	4	-4	-4	-2	-1
3150	3	4	3	3	3	3	3	3	-8	-8	3	3	-3	-3	-2	-2
4000	3	2	2	2	2	2	2	2	-9	-9	2	2	-4	-4	-2	-1
5000	7	6	5	6	7	7	7	7	-10	-10	1	1	-5	-6	-7	-6
6300	5	5	6	4	6	6	6	6	-11	-11	0	0	-6	-7	-6	-4
8000	5	5	5	4	6	6	6	6	-12	-12	-4	-4	-7	-6	-6	-4
10000	3	4	5	4	6	6	6	6	-13	-13	-5	-5	-8	-6	-6	-4
OCTAVE																
31.5	-14	-12	-12	-12	-12	-10	-9	-8	-5	-3	-2	0	3	5	8	8
63	-12	-11	-11	-10	-9	-10	-8	-6	-4	-2	1	2	4	6	8	8
125	-9	-7	-5	-6	-5	-6	-5	-4	-2	0	1	2	4	6	8	5
250	-6	-4	-3	-4	-3	-4	-3	-2	-1	1	2	3	4	6	8	5
500	2	2	3	2	1	0	-1	-2	-1	1	1	1	2	4	6	0
1000	7	6	4	3	2	0	-1	-2	-1	0	1	1	2	4	6	-3
2000	9	8	5	4	4	0	-3	-4	-3	0	1	1	2	4	6	-5
4000	5	4	3	4	4	0	-5	-6	-5	-1	0	-1	-2	-3	-5	-1
8000	6	5	5	5	6	3	-1	-2	-2	-4	-3	-4	-6	-6	-7	-4
OVERALL																
2	1	1	0	0	-2	-3	-4	-5	-3	0	1	1	2	2	4	4

TABLE: DIRECTIVITY INDEX (DB)																
6																
NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION: )																
F-102A AIRCRAFT ( 85% RPM ) TEMP = 26 C ) OMEGA 1.4																
J57-P-23A ENGINE ( FREE FLOW ) BAR PRESS = .748 M HG ) TEST 78-012-001																
FAR FIELD NOISE ( ) REL HUMID = 87 % ) RUN 03																
FREQ (HZ) 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
1/3 OCTAVE																
-14	-15	-14	-13	-12	-12	-12	-11	-10	-4	-6	-4	-2	2	7	8	8
-18	-17	-15	-15	-15	-15	-14	-11	-12	-8	-9	-6	-2	3	6	8	8
-19	-18	-16	-16	-16	-17	-15	-14	-13	-9	-7	-5	0	1	6	9	8
-19	-20	-20	-17	-17	-17	-15	-14	-14	-9	-7	-5	-1	3	7	9	7
-19	-19	-20	-19	-17	-17	-16	-14	-12	-9	-9	-6	-2	2	7	9	7
-22	-21	-20	-19	-17	-17	-15	-13	-12	-11	-9	-7	-3	2	7	10	6
-19	-19	-18	-17	-16	-15	-15	-13	-12	-10	-9	-6	-2	3	6	10	6
-18	-17	-16	-15	-14	-13	-13	-12	-12	-9	-7	-5	-1	4	6	10	6
-16	-17	-14	-16	-15	-13	-13	-12	-11	-8	-6	-2	1	5	6	8	6
-15	-14	-13	-13	-11	-11	-12	-9	-8	-6	-4	-1	2	4	8	4	4
-11	-11	-10	-9	-8	-8	-7	-6	-5	-4	-1	2	3	4	6	1	4
-10	-9	-11	-9	-8	-7	-6	-5	-5	-2	0	3	3	3	2	3	2
-8	-7	-6	-6	-4	-3	-3	-2	-3	0	1	3	3	1	1	3	3
-6	-5	-4	-3	-2	-2	-1	-2	-2	-1	1	1	1	3	3	2	2
-4	-3	-4	-2	-1	0	0	-3	-3	-2	0	-1	1	5	2	0	-1
-6	-4	-4	-2	-2	-2	-1	-6	-4	-4	0	3	4	5	1	-4	-4
-7	-7	-8	-7	-6	-6	-7	-8	-5	-4	1	5	3	5	2	-5	-6
-7	-7	-8	-7	-6	-5	-5	-8	-5	-1	2	5	4	4	1	-4	-6
0	-3	-4	-4	-5	-5	-7	-5	-2	-1	2	5	3	2	-1	-2	-6
9	5	5	4	2	0	-2	-4	-2	-1	0	1	1	-1	-4	-5	-8
7	3	3	2	1	-1	-3	-4	-2	-1	2	3	1	1	-2	-4	-7
3	3	3	2	1	-1	-4	-5	-3	-1	1	4	1	0	-1	-3	-5
6	7	7	6	5	3	-2	-6	-5	-5	-3	-1	-3	-4	-6	-8	-9
10	8	4	3	2	1	-3	-5	-3	0	-1	2	-2	-2	-2	-4	-5
8	5	3	1	0	-2	-5	-8	-5	-1	3	5	0	-1	-1	-2	-2
6	3	3	3	2	1	-3	-7	-6	-4	1	3	0	-1	-1	-3	-4
7	6	5	3	2	1	-3	-7	-6	-4	0	2	0	-1	0	-1	-2
8	6	5	3	2	1	-3	-6	-5	-3	0	2	-1	-1	-1	-1	-2
OCTAVE																
31.5	-17	-17	-16	-15	-15	-15	-13	-12	-8	-7	-5	-1	2	6	9	8
63	-20	-20	-19	-18	-17	-17	-15	-14	-10	-8	-6	-2	2	7	9	6
125	-18	-16	-16	-16	-14	-14	-12	-11	-9	-7	-4	-1	4	6	9	6
250	-13	-12	-11	-10	-9	-9	-7	-6	-4	-2	1	3	4	7	3	4
500	-7	-5	-4	-3	-2	-2	-2	-3	-4	-2	2	3	3	2	3	-1
1000	-7	-6	-6	-4	-4	-4	-4	-5	-3	-1	5	3	4	1	-4	-6
2000	7	3	3	2	0	-1	-3	-4	-5	-3	1	2	2	-2	-4	-7
4000	9	6	5	4	2	1	-3	-4	-5	-3	0	1	1	-4	-5	-7
8000	6	4	4	3	1	0	-5	-5	-4	-3	1	3	0	-1	-2	-2
10000	7	6	5	3	2	1	-3	-3	-4	-3	0	0	-1	-1	-3	-4
8	6	5	3	2	1	-3	-6	-5	-3	0	2	-1	-1	0	-1	-2
OVERALL																
-3	-6	-6	-7	-7	-8	-9	-9	-8	-6	-4	-1	0	3	6	8	5





TABLE: DIRECTIVITY INDEX (DB)																			
6																			
IDENTIFICATION:																			
OMEGA 1.4																			
TEST 78-012-001																			
RUN 05																			
NOISE SOURCE/SUBJECT:																			
OPERATION:																			
AFTERBURNER POWER																			
96% RPM																			
FREE FLOW																			
METEOROLOGY:																			
TEMP = 26 C																			
BAR PRESS = .748 M HG																			
REL HUMID = 87 %																			
PAGE 4																			
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
(HZ)																			
1/3 OCTAVE																			
25	-16	-17	-14	-15	-16	-16	-13	-10	-11	-12	-9	-4	-1	4	8	8	5		
31.5	-17	-17	-10	-17	-16	-15	-14	-11	-10	-12	-13	-5	0	4	7	9	4		
40	-19	-18	-19	-20	-17	-18	-17	-13	-12	-14	-12	-5	1	6	8	6	2		
50	-22	-21	-21	-20	-19	-18	-17	-14	-13	-13	-12	-4	1	6	9	5	1		
63	-23	-23	-23	-20	-20	-20	-20	-18	-15	-15	-13	-3	2	7	8	4	-1		
80	-23	-23	-23	-22	-22	-20	-20	-17	-16	-15	-13	-5	1	8	8	3	-4		
100	-21	-22	-21	-20	-19	-19	-17	-16	-15	-14	-10	-4	1	7	8	4	-3		
125	-20	-20	-18	-19	-18	-17	-16	-14	-13	-12	-9	0	4	5	8	5	-3		
160	-20	-20	-18	-20	-18	-17	-16	-14	-12	-11	-7	1	8	5	5	3	-5		
200	-18	-19	-17	-18	-18	-17	-16	-14	-12	-11	-7	1	8	6	2	0	-6		
250	-17	-16	-17	-16	-15	-14	-13	-12	-11	-8	-4	2	6	7	3	-3	-7		
315	-19	-14	-17	-16	-16	-14	-14	-11	-10	-11	-5	3	8	4	0	-4	-9		
400	-14	-8	-10	-11	-11	-8	-8	-7	-7	-6	-1	5	6	3	1	-2	-7		
500	-14	-7	-10	-9	-9	-8	-7	-6	-7	-7	-1	4	6	4	3	-1	-7		
630	-13	-8	-9	-8	-8	-6	-6	-6	-8	-7	-4	3	6	6	3	-3	-9		
800	-16	-9	-10	-8	-8	-7	-6	-8	-9	-8	-7	5	7	5	0	-5	-10		
1000	-20	-13	-13	-9	-9	-9	-8	-10	-6	-7	-4	6	7	3	0	-5	-10		
1250	-22	-16	-16	-12	-11	-10	-10	-8	-4	-4	-1	6	6	3	0	-6	-10		
1600	-23	-16	-16	-12	-11	-11	-10	-6	-3	-1	2	5	6	3	-2	-7	-12		
2000	-21	-15	-16	-13	-11	-10	-11	-5	-4	0	3	4	6	2	-2	-7	-13		
2500	-12	-13	-14	-12	-11	-9	-8	-4	-2	0	1	5	6	2	-2	-7	-13		
3150	-18	-15	-15	-13	-11	-9	-7	-4	-2	-1	0	5	6	2	-2	-7	-12		
4000	-21	-18	-17	-15	-12	-9	-7	-5	-2	-2	2	5	5	2	-2	-7	-13		
5000	-16	-15	-16	-14	-12	-8	-6	-4	-2	-1	0	5	6	2	-2	-7	-11		
6300	-20	-18	-17	-15	-13	-10	-7	-5	-3	-2	0	6	6	2	-2	-5	-9		
8000	-20	-19	-18	-17	-15	-10	-8	-6	-3	-4	0	6	6	2	-3	-6	-8		
10000	-23	-21	-20	-18	-16	-12	-10	-7	-4	-4	-1	6	7	2	-2	-6	-8		
OCTAVE																			
31.5	-18	-18	-18	-17	-17	-17	-15	-12	-11	-13	-12	-5	0	5	8	7	3		
63	-23	-23	-23	-21	-21	-20	-19	-15	-15	-15	-13	-4	1	7	8	4	-2		
125	-20	-20	-19	-20	-19	-18	-17	-15	-13	-13	-10	0	5	6	7	4	-3		
250	-18	-16	-17	-17	-16	-15	-14	-13	-11	-10	-6	2	7	6	2	-1	-7		
500	-14	-8	-10	-9	-9	-8	-7	-6	-7	-6	-1	4	6	4	2	-2	-7		
1000	-19	-12	-12	-9	-9	-9	-8	-9	-6	-6	-3	5	7	4	0	-5	-10		
2000	-18	-15	-15	-13	-11	-10	-10	-5	-3	0	2	5	6	2	-2	-7	-12		
4000	-18	-16	-16	-14	-14	-11	-9	-7	-4	-2	1	5	6	2	-2	-7	-12		
8000	-20	-19	-18	-16	-14	-10	-8	-6	-3	-3	0	6	6	2	-3	-6	-8		
OVERALL	-19	-16	-17	-16	-15	-14	-13	-11	-10	-9	-5	1	6	6	6	2	-4		





IDENTIFICATION:

**OMEGA 1.4**

) METEOROLOGY:

**( OPERATION:**

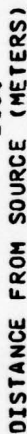
76% ODM

15% RPM  
FREE FLOW

## FAR FIELD NOISE

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

18 SEP 78



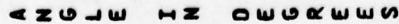
**FIGURE 5: OVERALL SOUND PRESSURE LEVEL {OASPL} EQUAL LEVEL CONTOURS (DB)**

IDENTIFICATIONS:  
OMEGA 1.4  
TEST 70-012-00  
RUN 03  
10 SEP 70  
PAGE 13

METEOROLOGY:  
TEMP  
BAR PRESS  
REL HUMID

( OPERATION:  
(  
( 85% RPM  
( FREE FLO

F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE







( FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL) )  
 ( 5 EQUAL LEVEL CONTOURS (DB) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 78-012-001 )  
 ( ) RUN 05 )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 10 SEP 78 )  
 ( ) PAGE 13 )  
 ( ) NOISE SOURCE/SUBJECT: )  
 ( ) OPERATION: )  
 ( ) AFTERBURNER POWER )  
 ( ) 96% RPM )  
 ( ) FREE FLOW )  
 ( ) F-102A AIRCRAFT )  
 ( ) J57-P-23A ENGINE )  
 ( ) FAR FIELD NOISE )

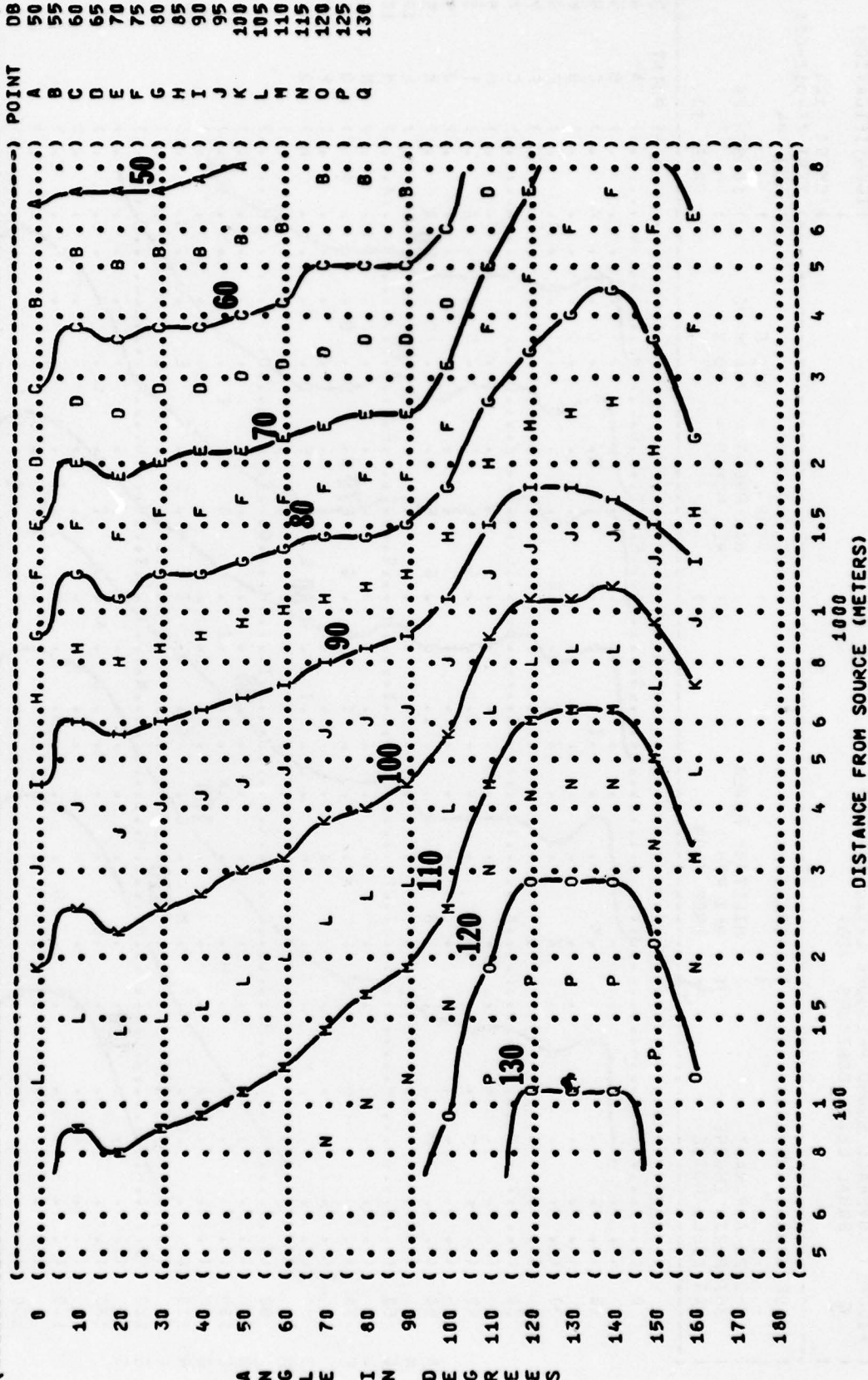


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL {OASLC}  
EQUAL LEVEL CONTOURS (DBC)

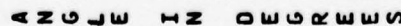
**6**

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION: )  
( ( IDLE ) TEMP = 15 C ) )  
( ( 57% RPM ) BAR PRESS = .760 M HG ) )  
( ( FREE FLOW ) REL HUMID = 70 % ) )

F-102A AIRCRAFT )  
J57-P-23A ENGINE )  
FAR FIELD NOISE )  
PAGE 14 )

METEOROLOGY:  
TEMP  
BAR PRESS  
REL HUMID

18 SEP 78  
PAGE 14

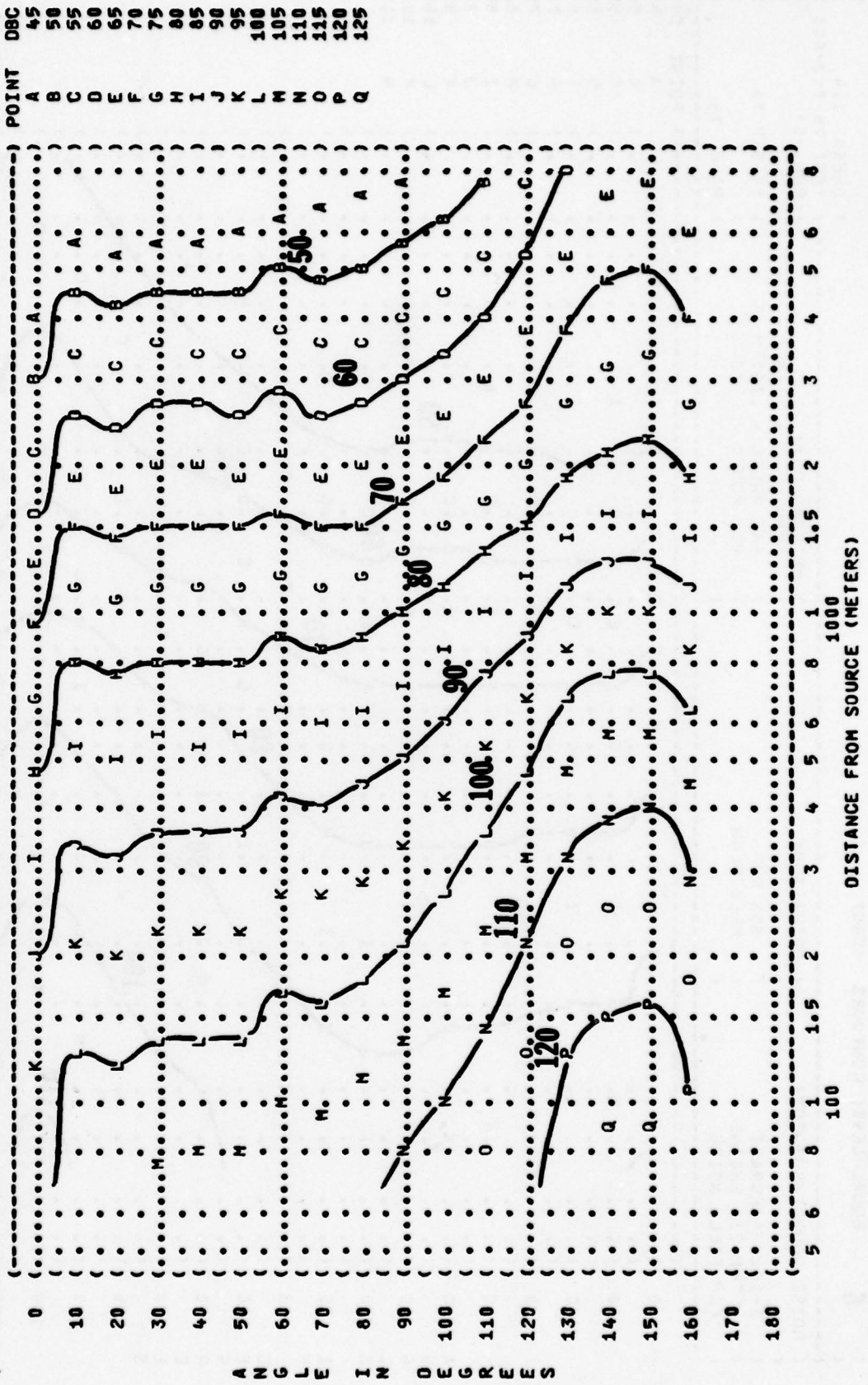




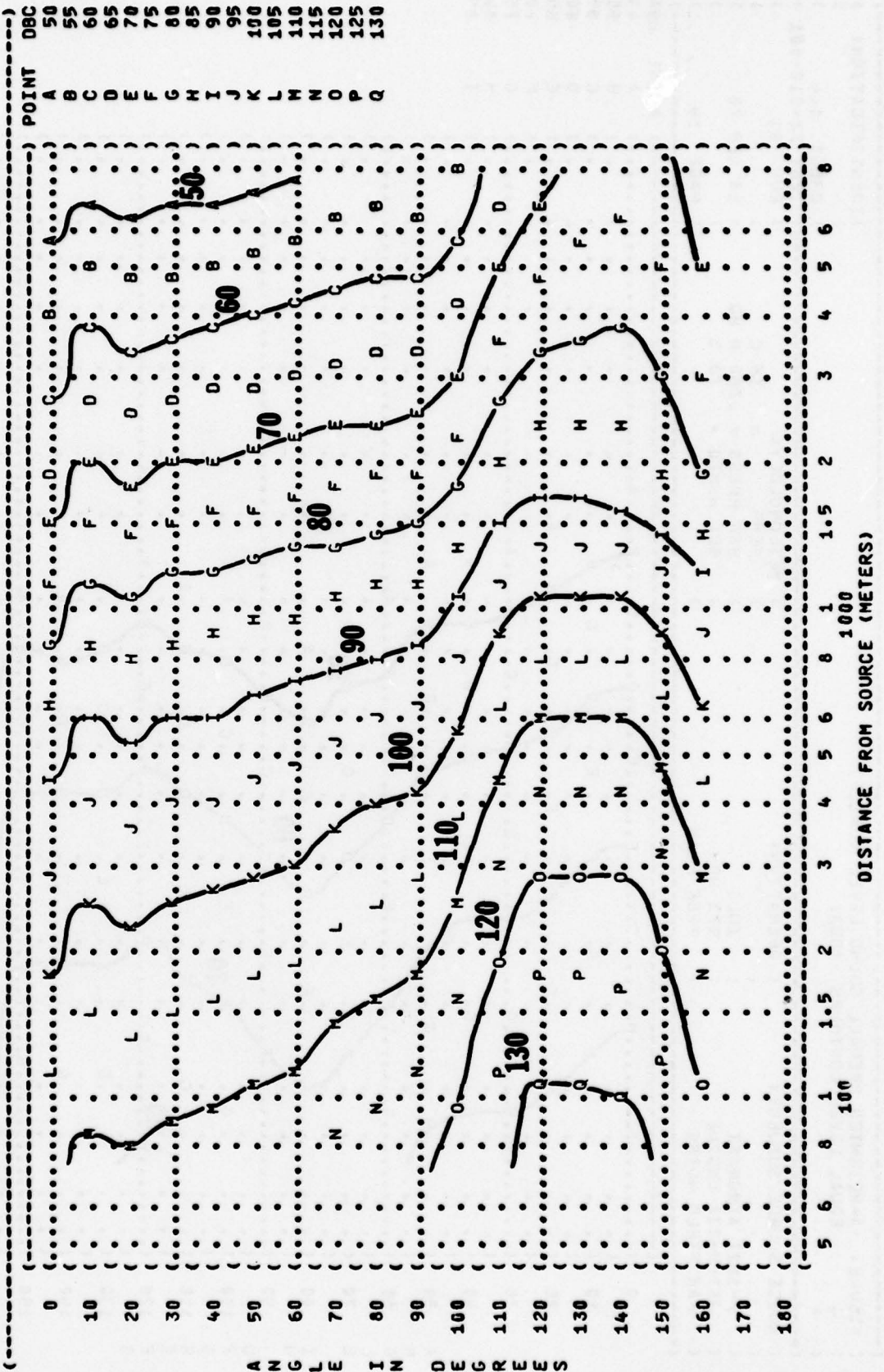




( FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)  
 ( 6  
 ( IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 04  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) F-102A AIRCRAFT  
 ( ) J57-P-23A ENGINE  
 ( ) FAR FIELD NOISE  
 ( ) FREE FLOW  
 ( ) PAGE 14



```
(-----)
( FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) ) IDENTIFICATION:
(      6    EQUAL LEVEL CONTOURS (DBC) ) )
( ) )
( ) OMEGA 1.4 )
( ) TEST 78-012-001 )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) RUN 05 )
( ) ) TEMP = 15 C ) )
( F-102A AIRCRAFT ) AFTERBURNER POWER ) BAR PRESS = .760 M HG )
( J57-P-23A ENGINE ) 96% RPM ) REL HUMID = 70 % )
( FAR FIELD NOISE ) FREE FLOW ) PAGE 14 )
(-----)
```



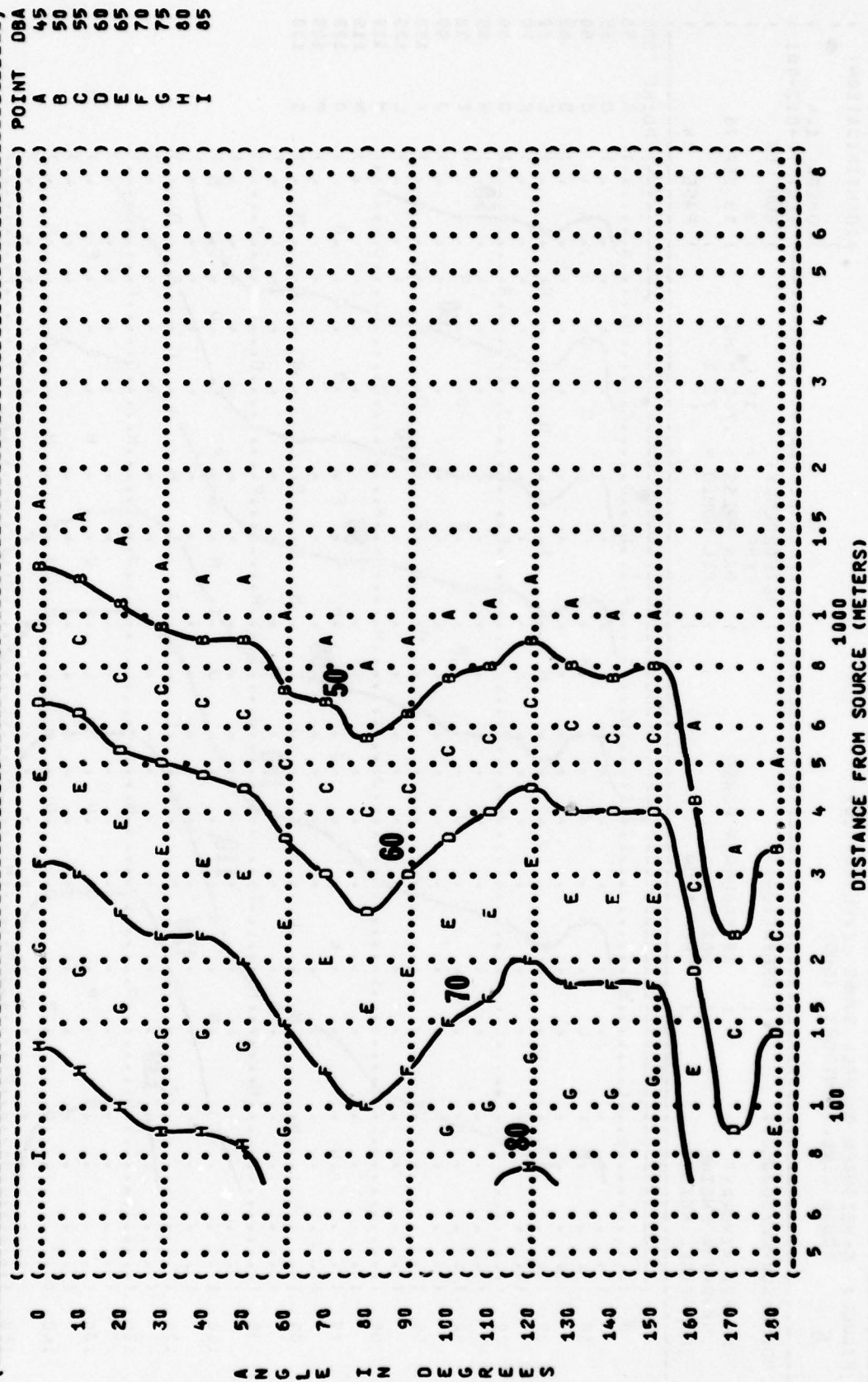


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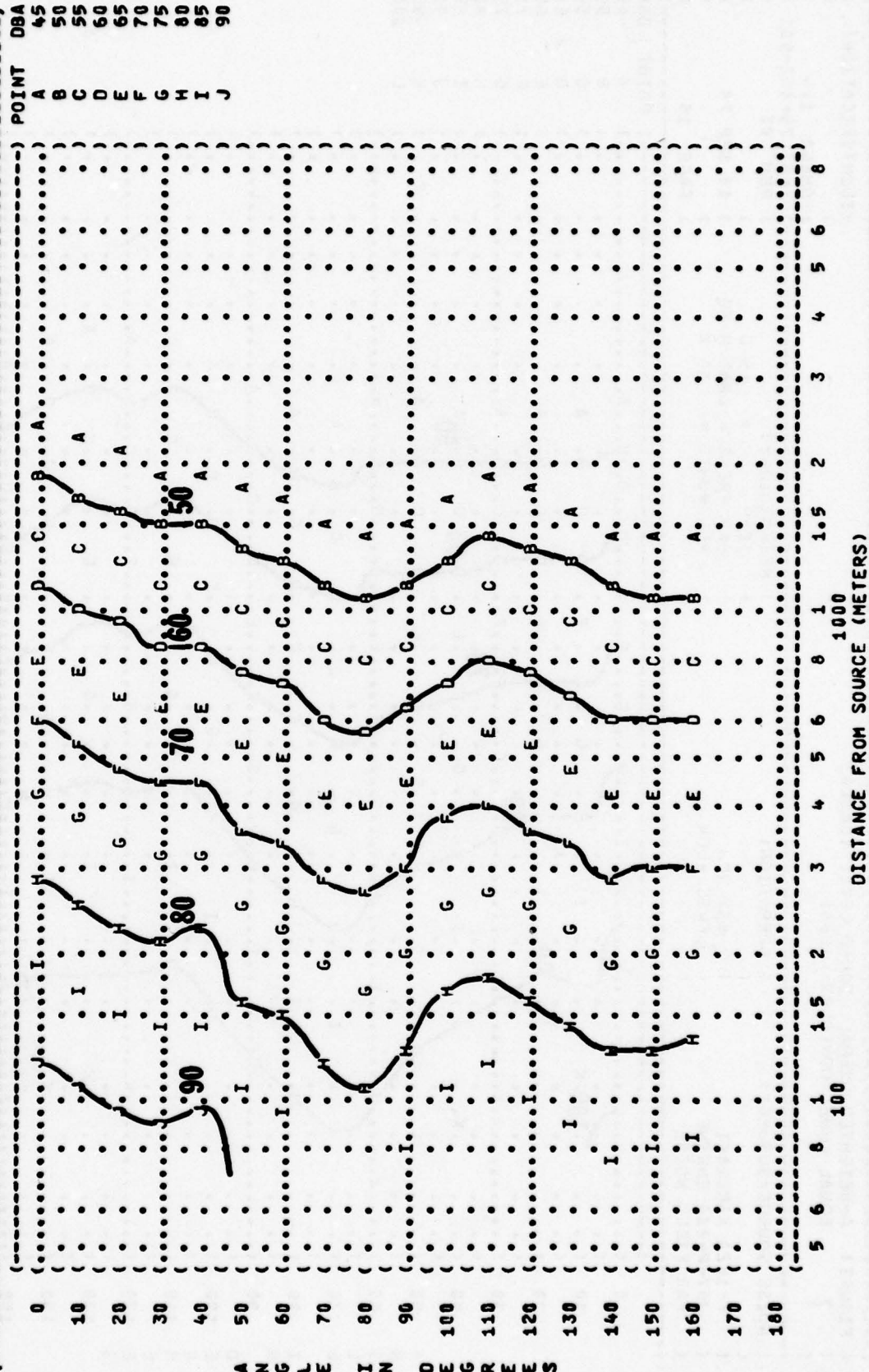
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FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)
7
-----
NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION:
( ( ) ) ) )
( ( IDLE ) ) ) )
( ( 57% RPM ) ) ) )
( ( FREE FLOW ) ) ) )
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE
OMEGA 1.4
TEST 78-012-00
RUN 01
10 SEP 78
PAGE 15

```



( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)  
 ( 7  
 ( EQUAL LEVEL CONTOURS (DBA)  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 02  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 10 SEP 78  
 ( ) PAGE 15  
 ( )  
 ( NOISE SOURCE/SUBJECT:  
 ( ) OPERATION:  
 ( ) ( 75% RPM  
 ( ) ( FREE FLOW  
 ( ) F-102A AIRCRAFT  
 ( ) J57-P-23A ENGINE  
 ( ) FAR FIELD NOISE

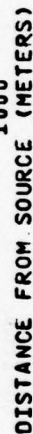


IDENTIFICATION: )  
)

OMEGA 1.4 )

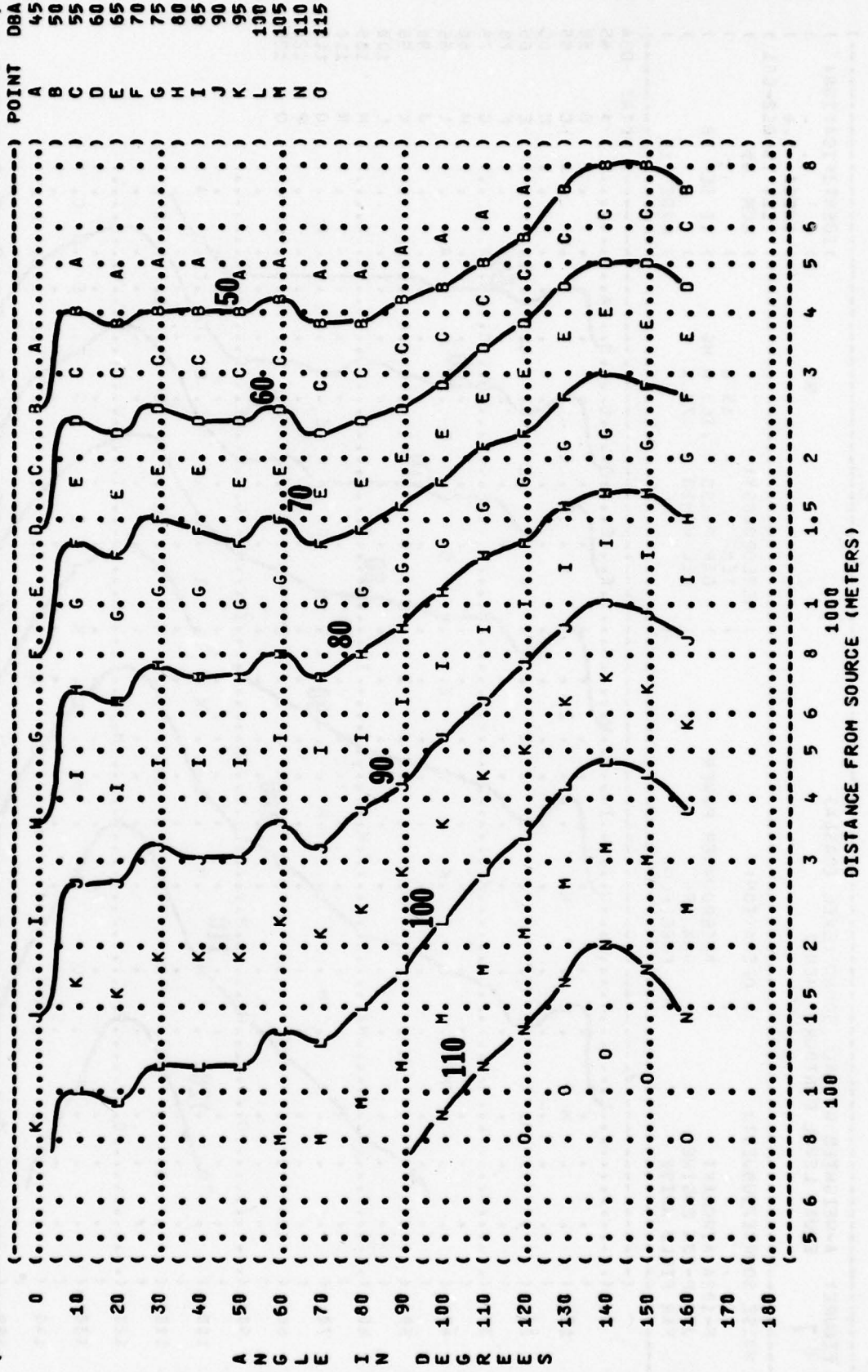
METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

RUN 03  
18 SEP 78  
PAGE 15





( ( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)  
 ( ( 7  
 ( ( EQUAL LEVEL CONTOURS (DBA)  
 ( ( ) IDENTIFICATION: )  
 ( ( ) OMEGA 1.4  
 ( ( ) TEST 78-012-001  
 ( ( ) RUN 04  
 ( ( ) METEOROLOGY: )  
 ( ( ) TEMP = 15 C  
 ( ( ) BAR PRESS = .760 M HG  
 ( ( ) REL HUMID = 70 %  
 ( ( ) 18 SEP 78  
 ( ( ) PAGE 15  
 ( ( ) NOISE SOURCE/SUBJECT: )  
 ( ( ) OPERATION: )  
 ( ( ) MILITARY POWER  
 ( ( ) 96% RPM  
 ( ( ) FREE FLOW  
 ( ( ) F-102A AIRCRAFT  
 ( ( ) J57-P-23A ENGINE  
 ( ( ) FAR FIELD NOISE



**IDENTIFICATION:**

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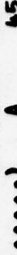
METEOROLOG Y:

TEMP = 15 C

BAR PRESS = .760 H HG  
REF HUMID = 70 %

**PAGE 15**

-----) POINT OBA

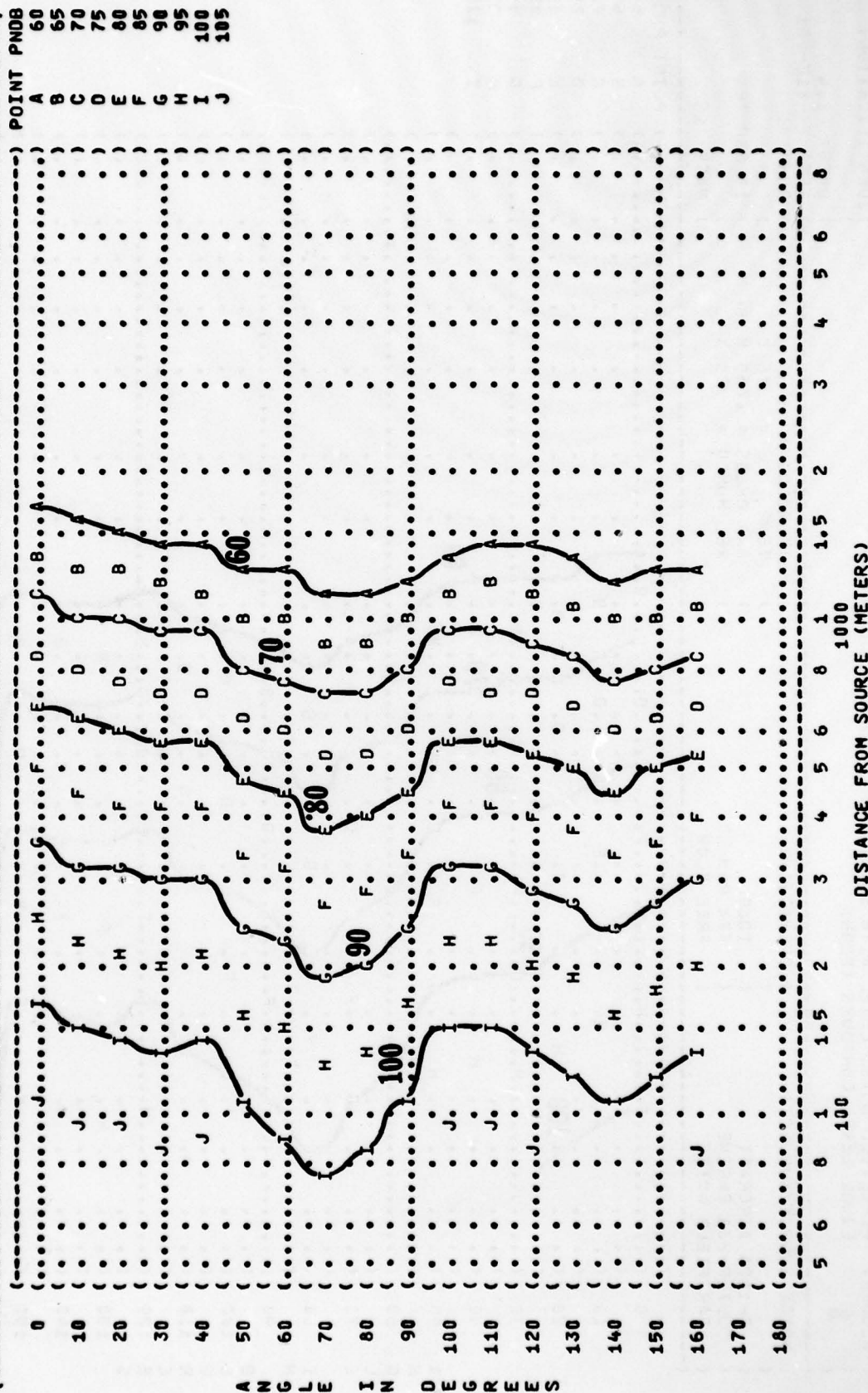


DISTANCE FROM SOURCE (METERS)





(-----)  
 ( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)  
 ( 8 EQUAL LEVEL CONTOURS (PNDB)  
 (-----)  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( F-102A AIRCRAFT ( 75% RPM ) TEMP = 15 C  
 ( J57-P-23A ENGINE ( FREE FLOW ) BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ( ) REL HUMID = 70 %  
 (-----)  
 ( IDENTIFICATION: )  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 02  
 ( ) 18 SEP 78  
 ( ) PAGE 16  
 (-----)



( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)  
 ( 8 EQUAL LEVEL CONTOURS (PN08)  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 03  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 24 JAN 79  
 ( ) PAGE 16  
 ( )  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: )  
 ( )  
 ( F-102A AIRCRAFT ( 85% RPM  
 ( J57-P-23A ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )

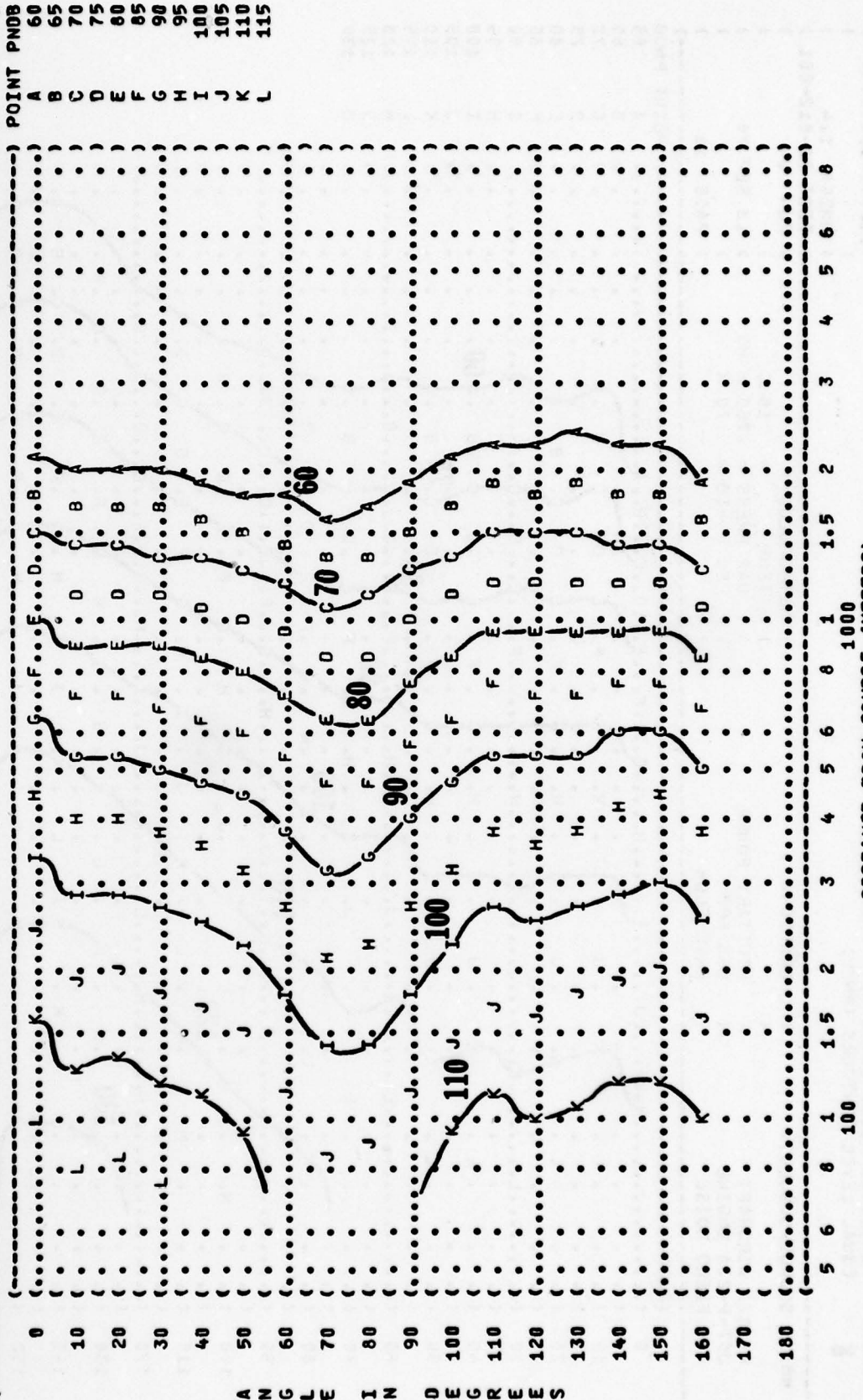


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

**IDENTIFICATION:**

**OMEGA 1.4**

TEST 78-012-001

04 RUN

TEMP

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

FREE FLOW

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ANG L

0 10 20 30 40 50 60 70

A B C D E F G H I J K L M N O

60 65 70 75 80 85 90 95 100 105 110 115 120 125 130

A B C D E F G H I J K L M N O

ANGLE IN DEGREES

DISTANCE FROM SOURCE (METERS)







IDENTIFICATION:

**OMEGA 1.4**

## 9) METEOROLOGY:

TEMP = 15 C

18 SEP 78

REL HUMID = 70 %

**PAGE 17**

DB	POINT
0	A
10	B
20	C
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40	E
50	F
60	G
70	H
80	I
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100  
DISTANCE FROM SOURCE (METERS)  
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### IDENTIFICATION:

### EQUAL LEVEL CONTOURS (DB)

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**OMEGA 1.4**

**NOISE SOURCE/SUBJECT:**

## ( OPERATIONS

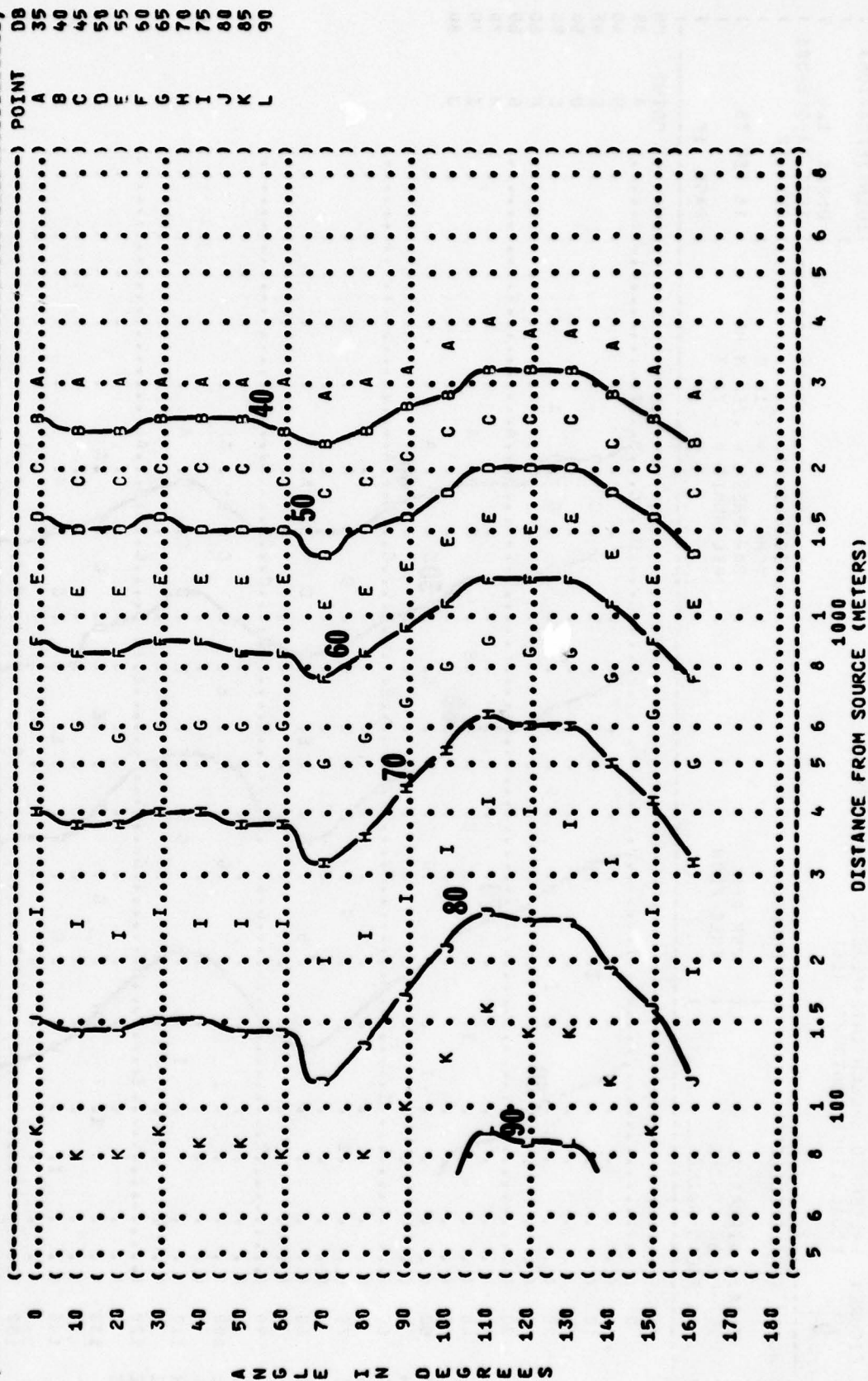
## 0 METEOROLOGY:

F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE

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85% RPM  
FREE FLOW

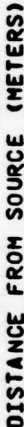
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

PAGE 17





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( ( FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)  
( ( EQUAL TIME CONTOURS (MINUTES)  
( ( 10  
( ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
( ( F-102A AIRCRAFT ( IDLE ) TEMP = 15 C  
( ( J57-P-23A ENGINE ( 57% RPM ) BAR PRESS = .760 M HG  
( ( FAR FIELD NOISE ( FREE FLOW ) REL HUMID = 70 %  
( ( IDENTIFICATION: ) OMEGA 1.4  
( ( TEST 78-012-001  
( ( RUN 01  
( ( 18 SEP 78  
( ( PAGE 8

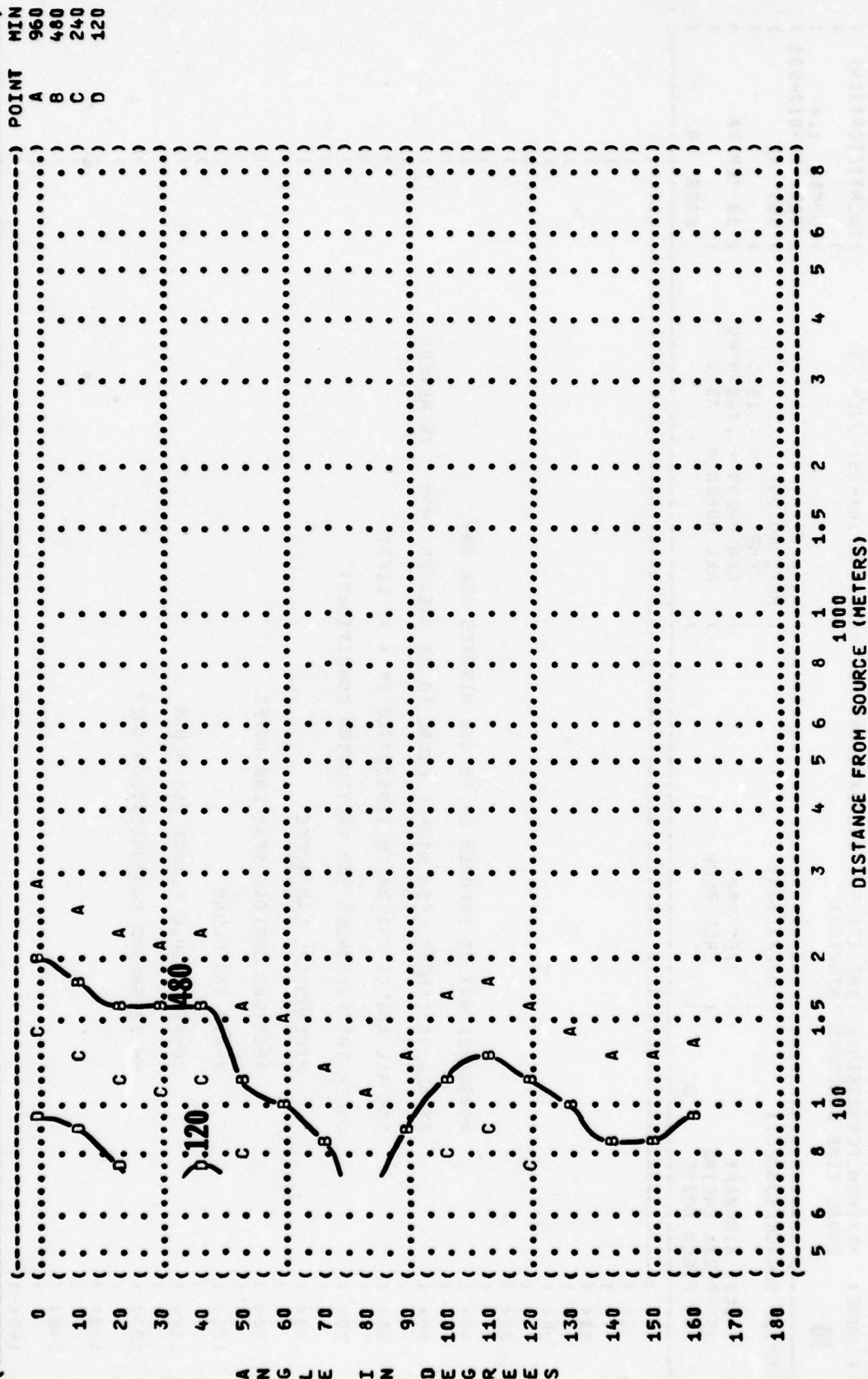
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
A	N	S	L	E	I	N	D	E	G	E	E	S						

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)  
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

3 4 5 6 8 1 1.5 2 3 4 5 6 8  
1000  
DISTANCE FROM SOURCE (METERS)

```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )
(    10      EQUAL TIME CONTOURS (MINUTES) ) )
( NO PROTECTION ) OMEGA 1.4 )
( ) TEST 78-012-001 )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) RUN 02 )
( ) TEMP = 15 C ) )
( F-102A AIRCRAFT ) 75% RPM ) BAR PRESS = .760 M HG )
( J57-P-23A ENGINE ) FREE FLOW ) REL HUMID = 70 % )
( FAR FIELD NOISE ) ) PAGE 7 )
(-----)
```







(	(	FIGURE:	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	) IDENTIFICATION:
(	(	10	EQUAL TIME CONTOURS (MINUTES)	)
(	(		NO PROTECTION	) OMEGA 1.4
(	(	NOISE SOURCE/SUBJECT:		) TEST 78-012-001
(	(		OPERATION:	) RUN 03
(	(		METEOROLOGY:	)
(	(	F-102A AIRCRAFT	TEMP = 15 C	)
(	(	J57-P-23A ENGINE	BAR PRESS = .760 M HG	) 18 SEP 78
(	(	FAR FIELD NOISE	REL HUMID = 70 %	)
(	(			) PAGE 7

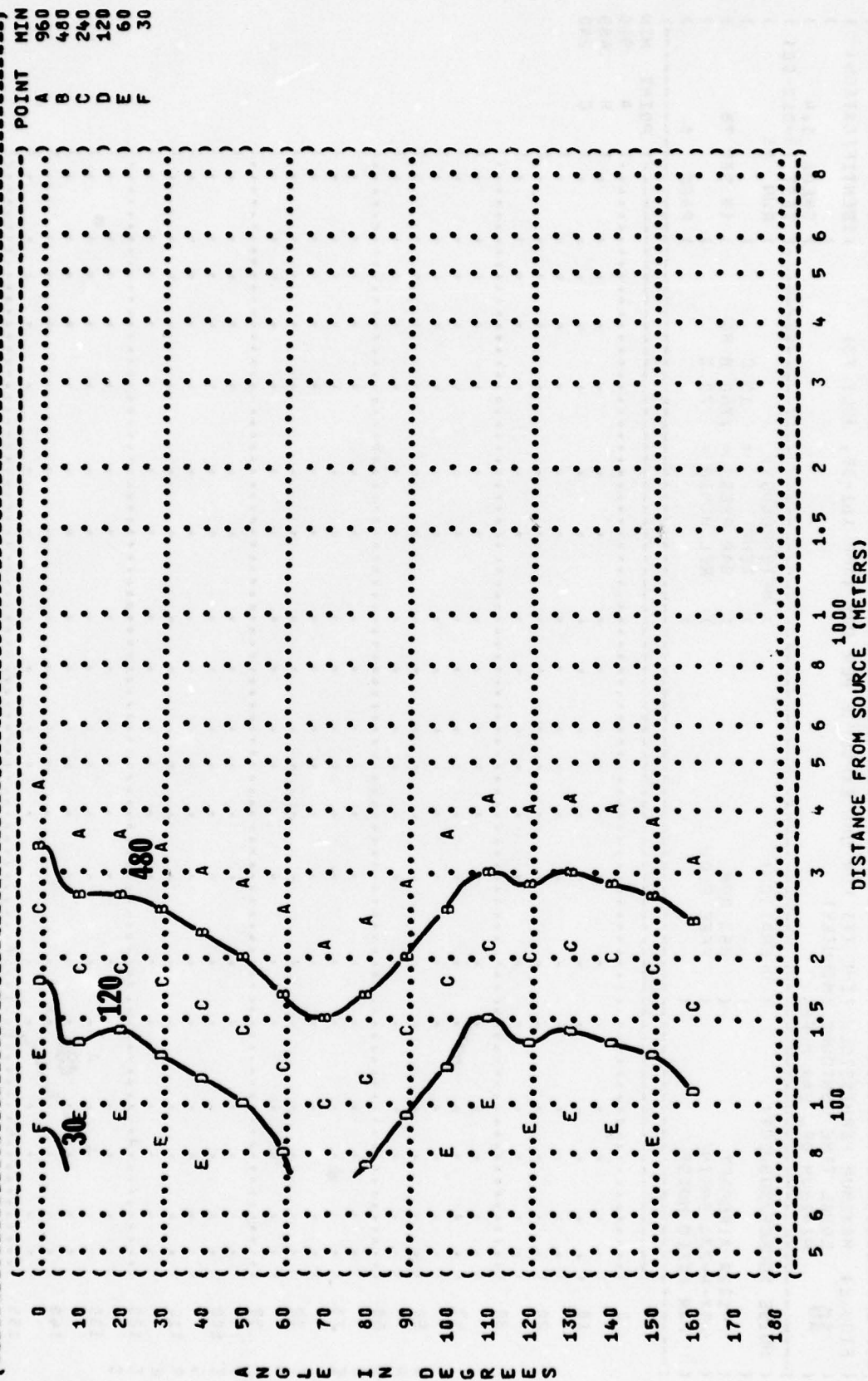


FIGURE:	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	IDENTIFICATION:
10	EQUAL TIME CONTOURS (MINUTES)	
	MINIMUM QPL EAR MUFFS	OMEGA 1.4
		TEST 78-012-001
NOISE SOURCE/SUBJECT:	OPERATION:	RUN 03
		METEOROLOGY:
		TEMP = 15 C
F-102A AIRCRAFT	85% RPM	BAR PRESS = .760 M HG
J57-P-23A ENGINE	FREE FLOW	REL HUMID = 70 %
FAR FIELD NOISE		PAGE 8

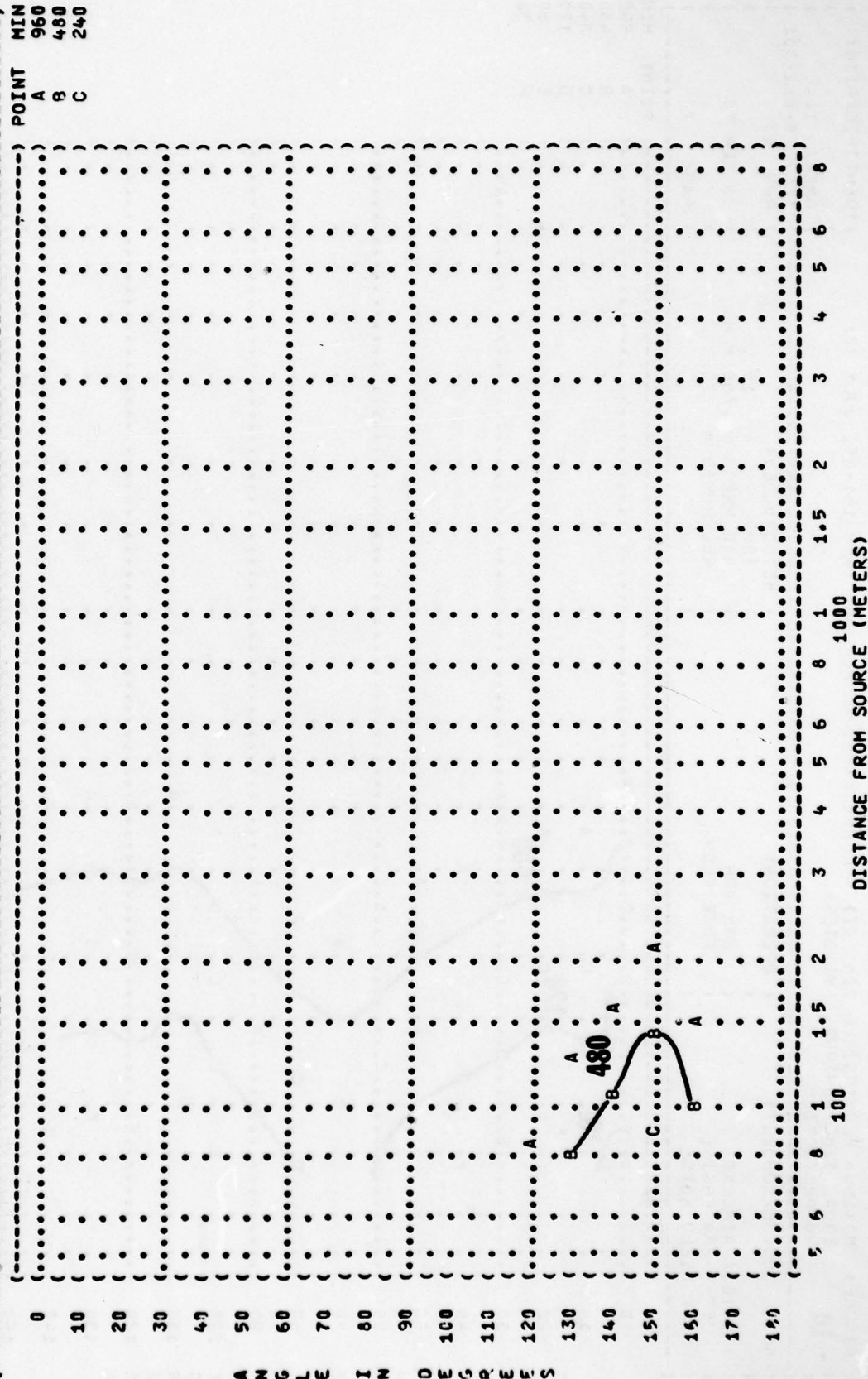






FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

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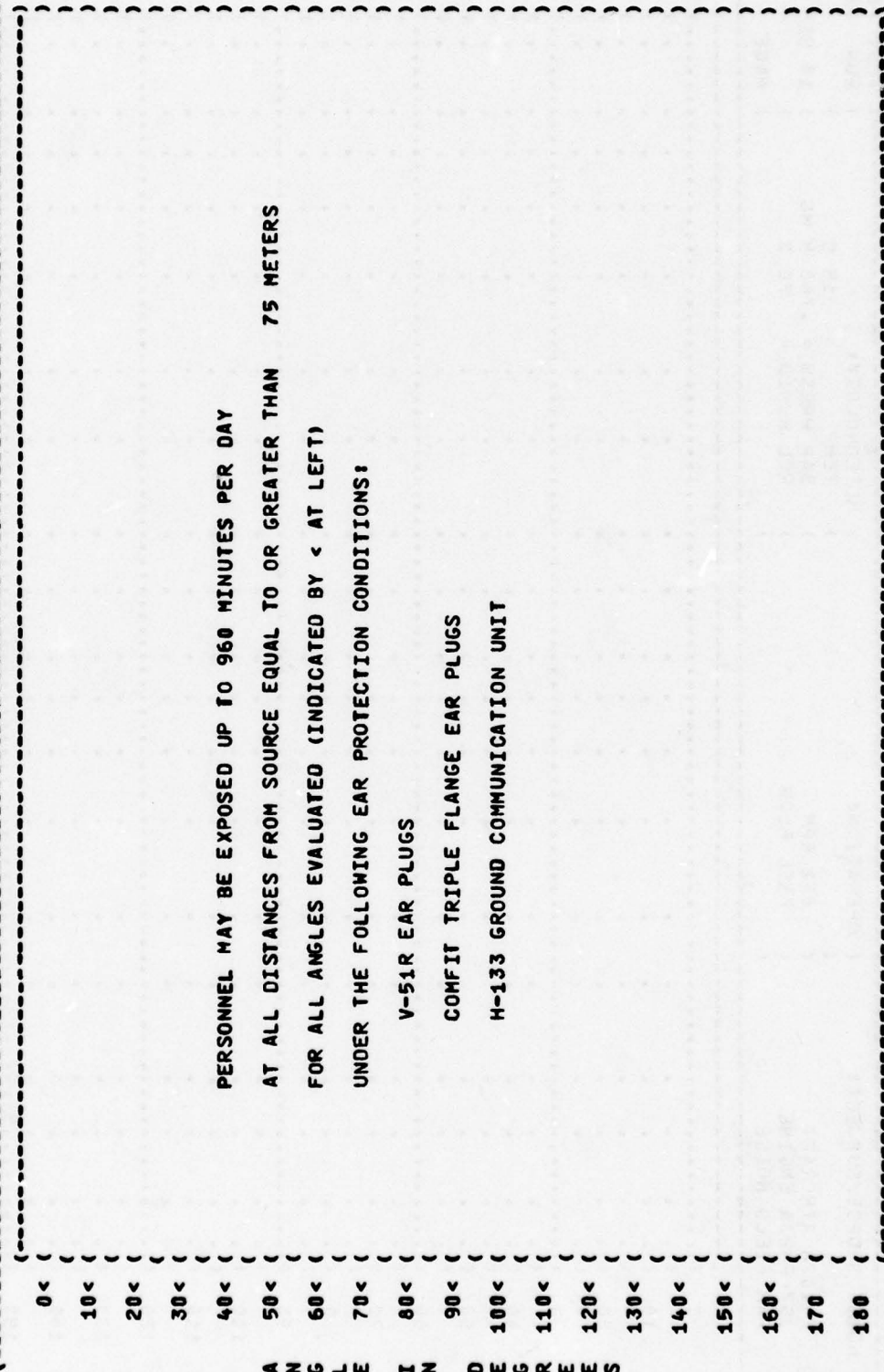
NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: OMEGA 1.4

F-102A AIRCRAFT 85% RPM TEMP = 15 C TEST 78-012-001

J57-P-23A ENGINE FREE FLOW BAR PRESS = .760 M HG RUN 03

FAR FIELD NOISE REL HUMID = 70 % 16 SEP 78

PAGE 10



A N G L E I N D E G R E E S





	MIN										POINT									
	A										B									
0																				
10																				
20																				
30																				

















FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: TEMP = 15 C

F-102A AIRCRAFT ( AFTERBURNER POWER ) BAR PRESS = .760 M HG

J57-P-23A ENGINE ( 96% RPM ) REL HUMID = 70 %

FAR FIELD NOISE ( FREE FLOW )

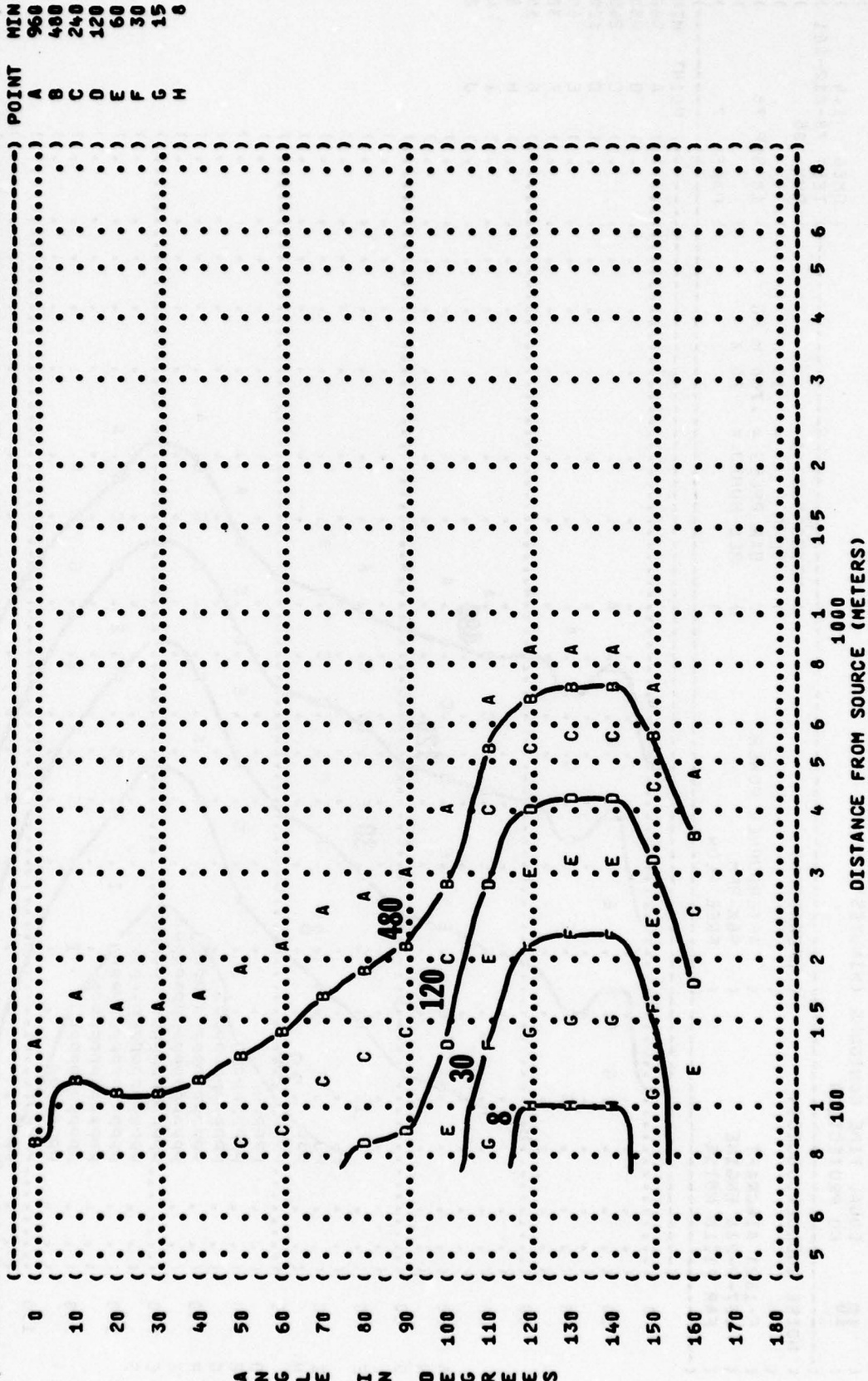
IDENTIFICATION: OMEGA 1.4

TEST 78-012-001

RUN 05

18 SEP 78

PAGE 8

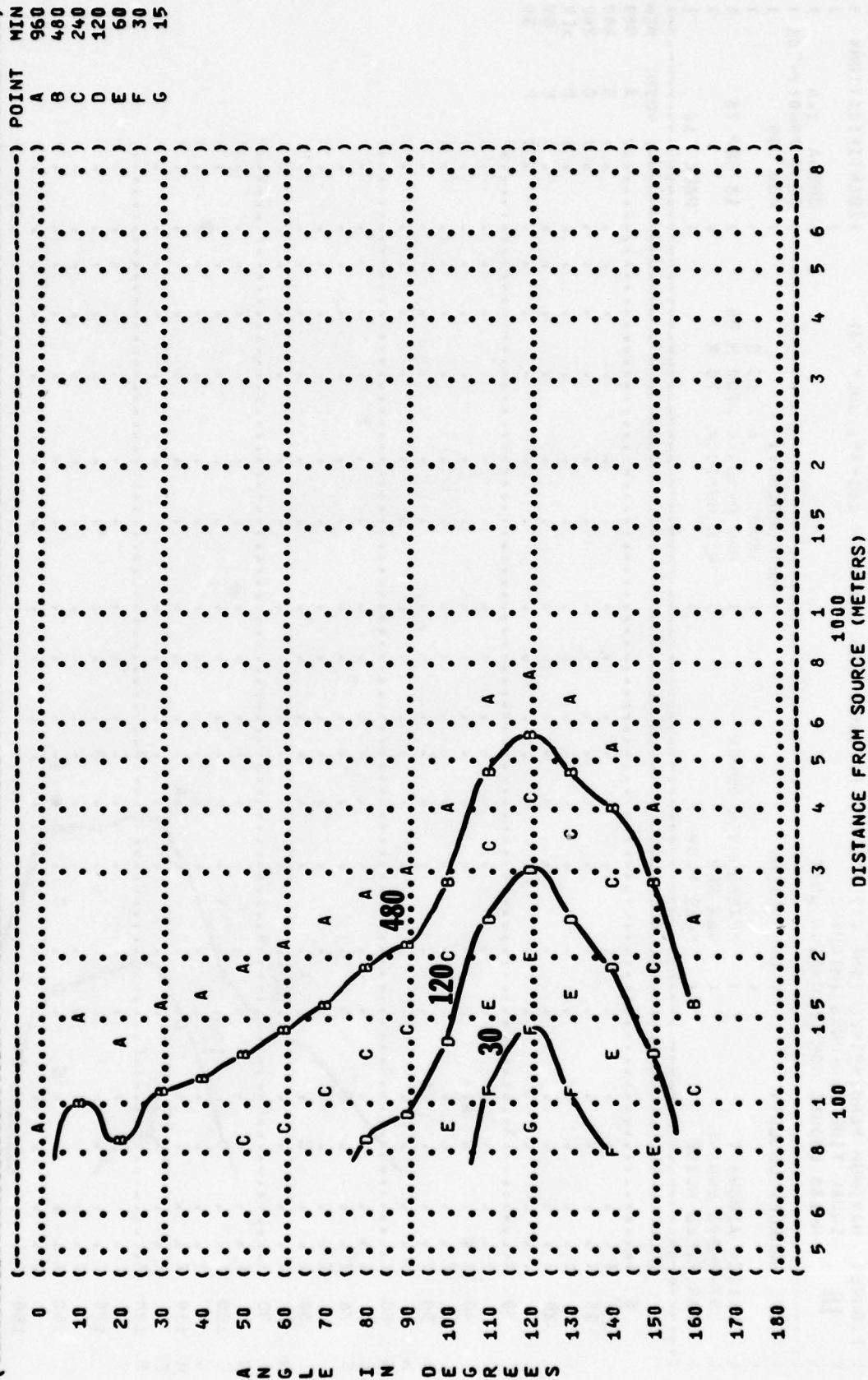


	(	-	-	-	-	-	)	MIN	POINT
0	((	.	.	.	.	.	.A.	960	A
10	((	.	.	.	.	.	. . A .	480	B
20	((	.	.	.	.	.	. . . A .	240	C
30	((	.	.	.	.	.	. . . . A .	120	D
	((	.	.	.	.	.	. . . . . A .	60	E
	((	.	.	.	.	.	. . . . . . A .	30	F
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( ( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ( 10 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( ( COMFIT TRIPLE FLANGE EAR PLUGS ) )  
 ( ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( ( F-102A AIRCRAFT ) ) TEMP = 15 C )  
 ( ( J57-P-23A ENGINE ) ) AFTERBURNER POWER )  
 ( ( FAR FIELD NOISE ) ) 96% RPM )  
 ( ( ) ) REL HUMID = 70 % )  
 ( ( ) ) RUN 05 )  
 ( ( ) ) 18 SEP 78 )  
 ( ( ) ) PAGE 11 )  
 ( ( ) ) POINT MIN )



1

SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
11.5 HZ OCTAVE BAND

SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
11.5 HZ OCTAVE BAND

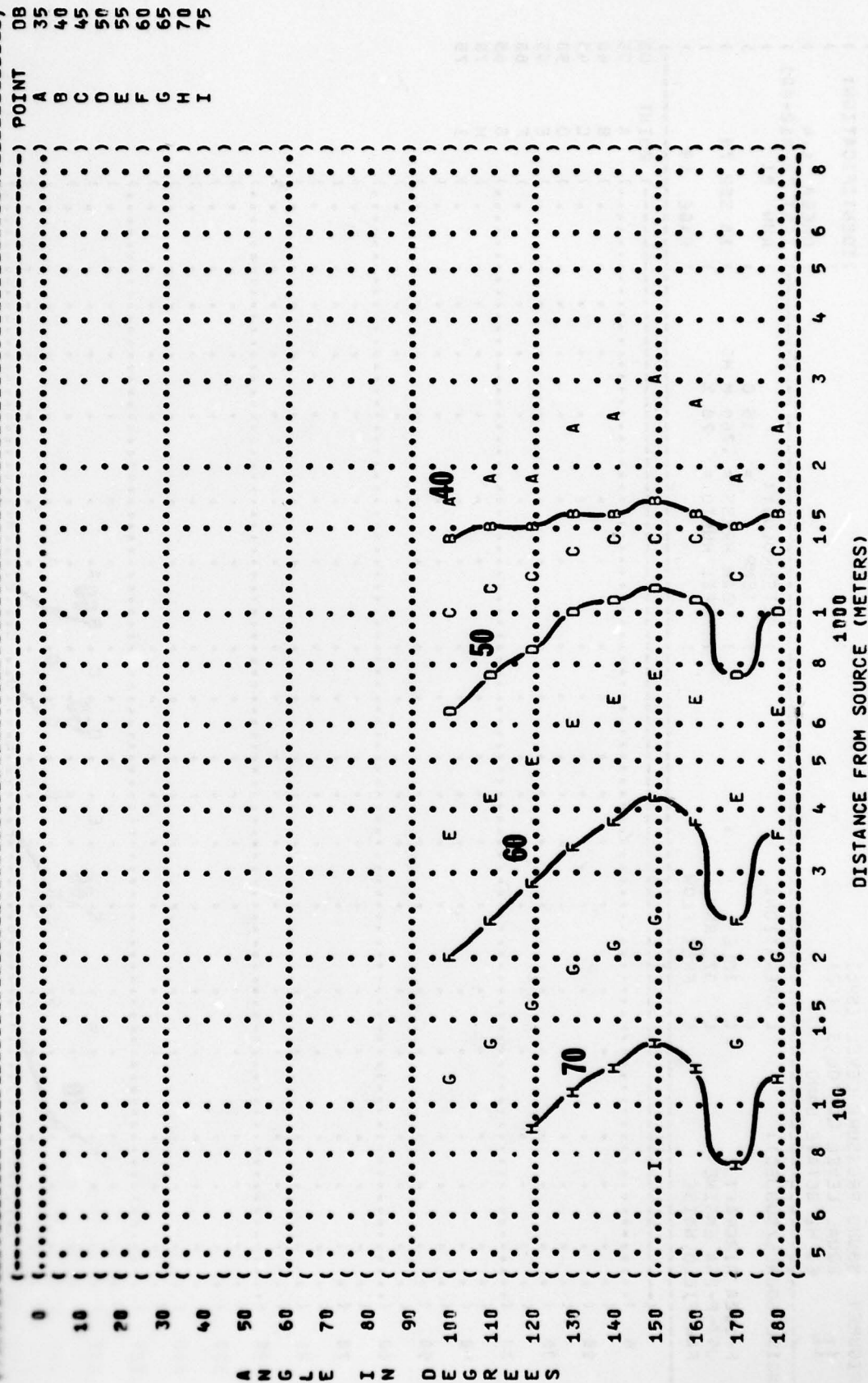
**WUJVE SOURCE / SUBJECT:**

0-1024 AIRCRAFT  
J67-B-234 ENGINE  
F44 FIELD NOISE

OPERATION:  
IDLE  
57% RPM  
FREE FLOW

METEOROLOGY:  
TEMP  
BAR PRESS  
REL HUMID

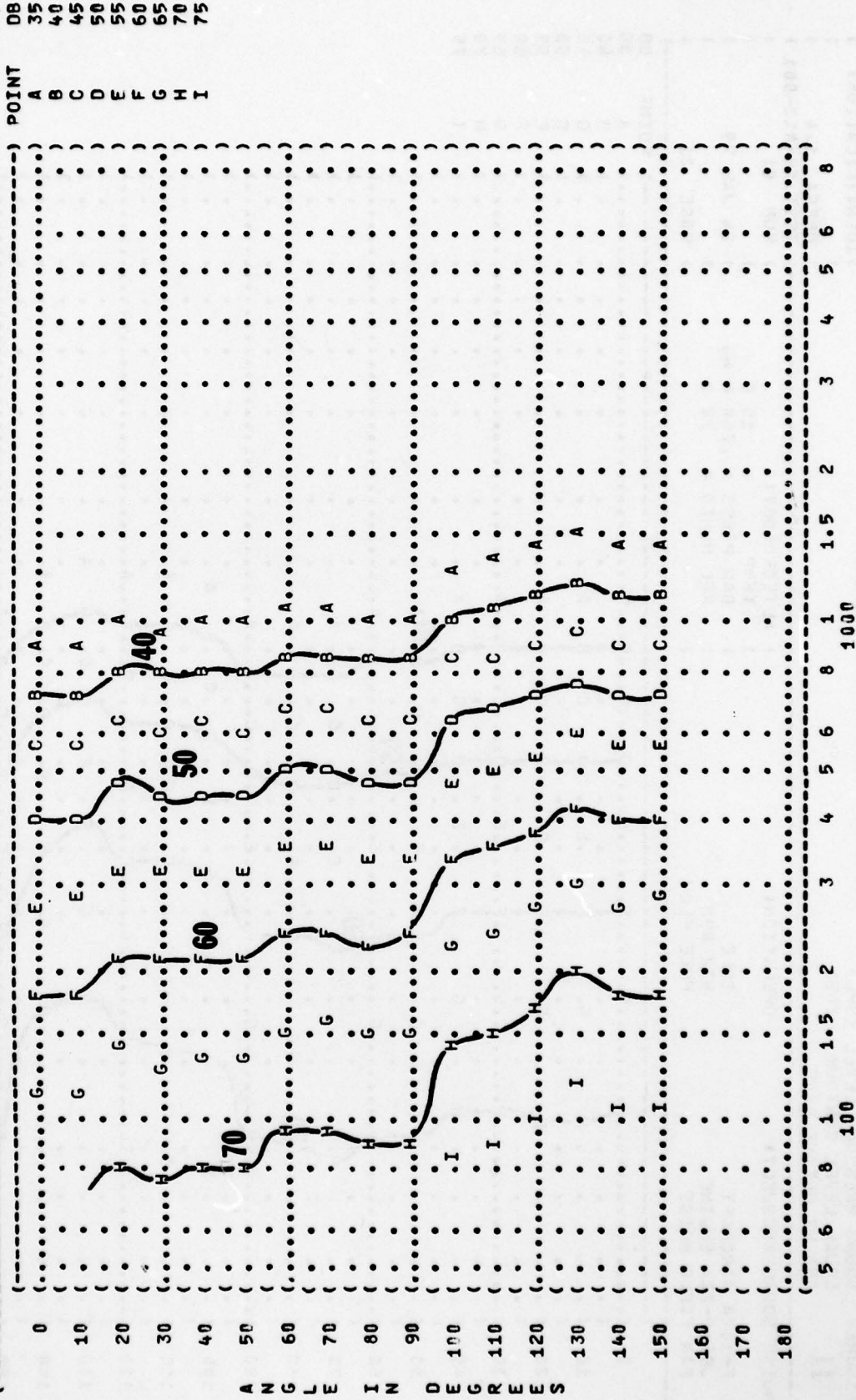
IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-00  
RUN 01





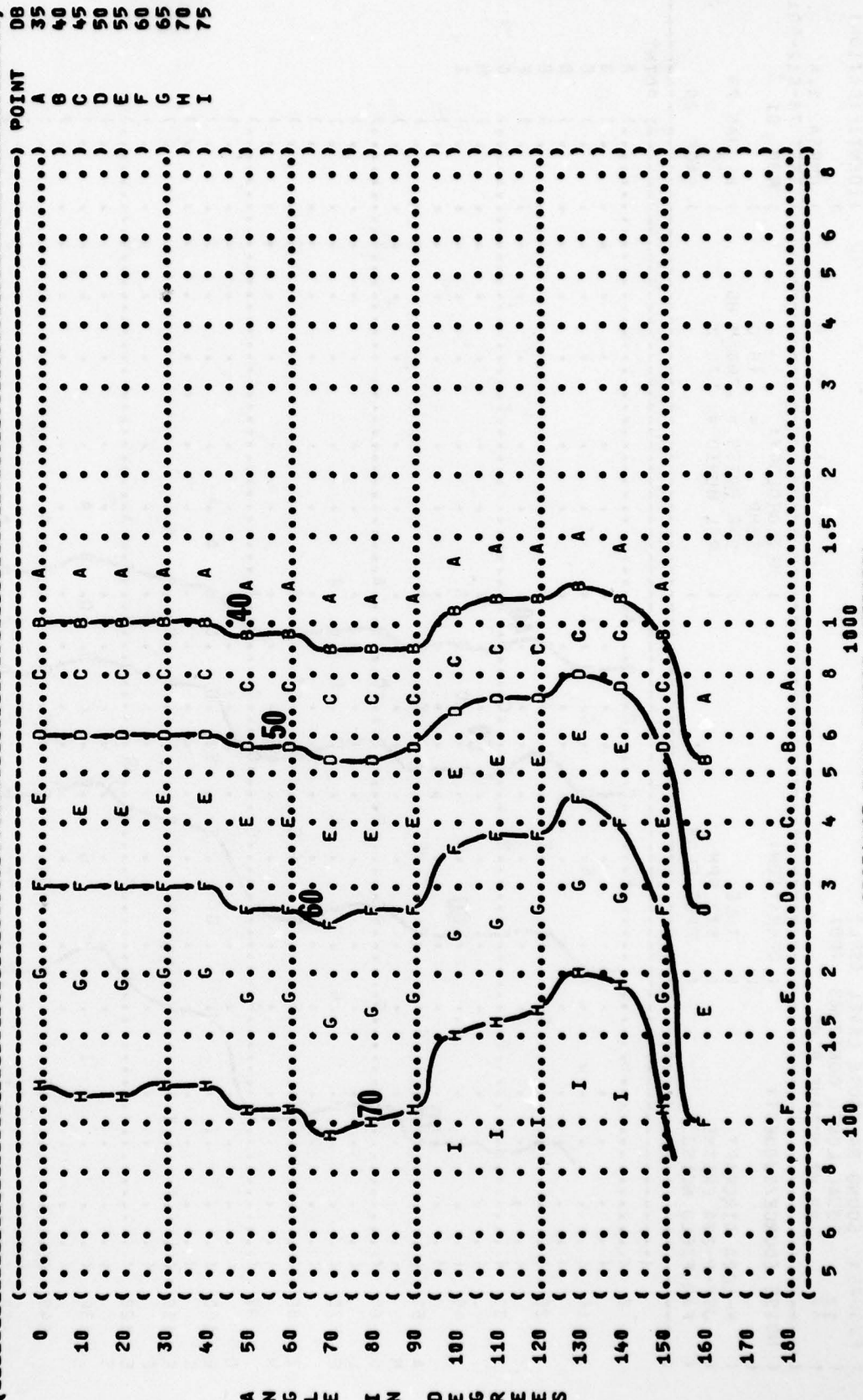


( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( ( IDLE  
 ( ( ( 57% RPM  
 ( ( ( FREE FLOW  
 ( F-102A AIRCRAFT  
 ( J57-P-23A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 01  
 ( 24 JAN 79  
 ( PAGE 20



DISTANCE FROM SOURCE (METERS)

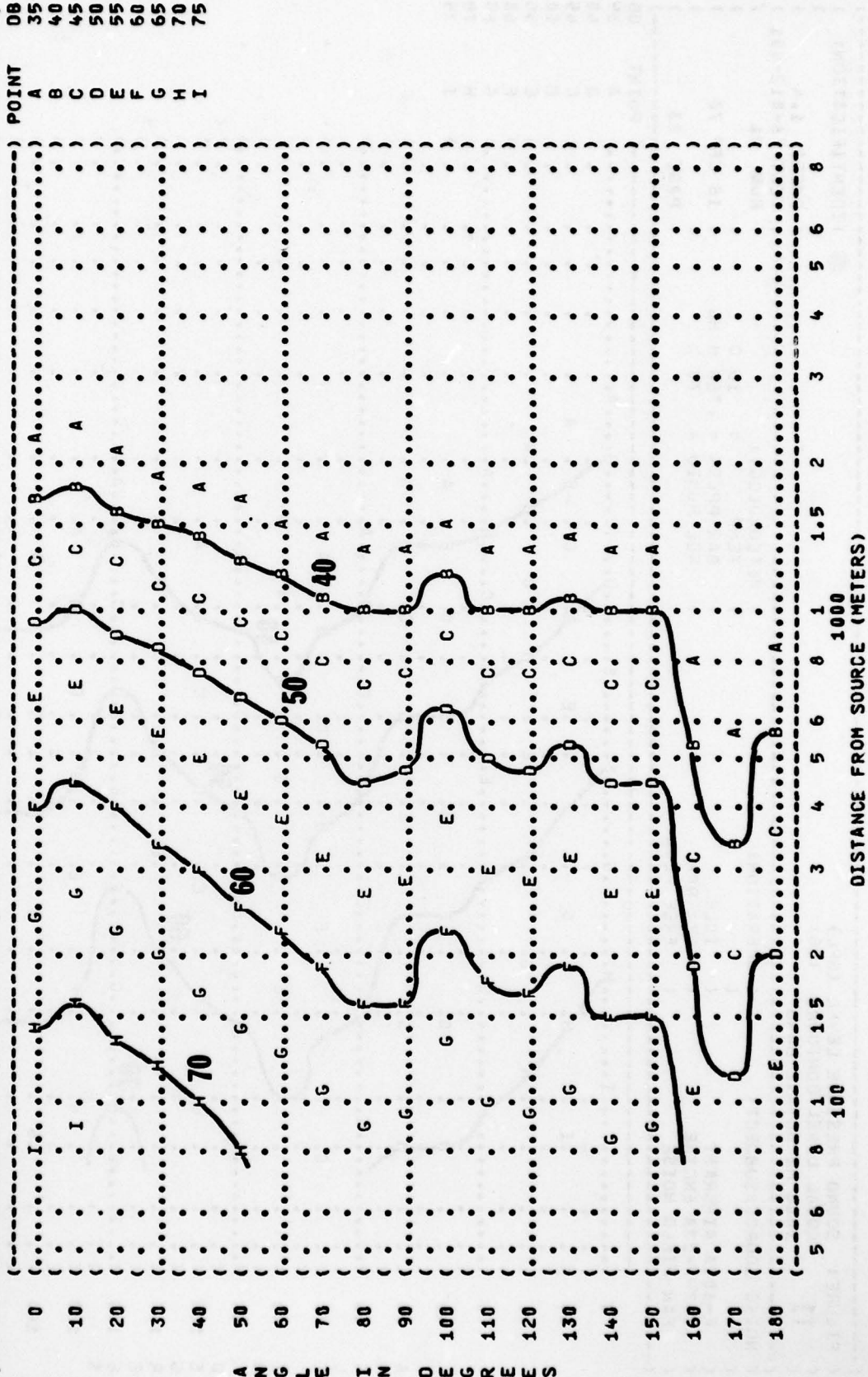
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( IDLE  
 ( J57-P-23A ENGINE ( 57% RPM  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 01  
 ( 24 JAN 79  
 ( PAGE 21  
 (



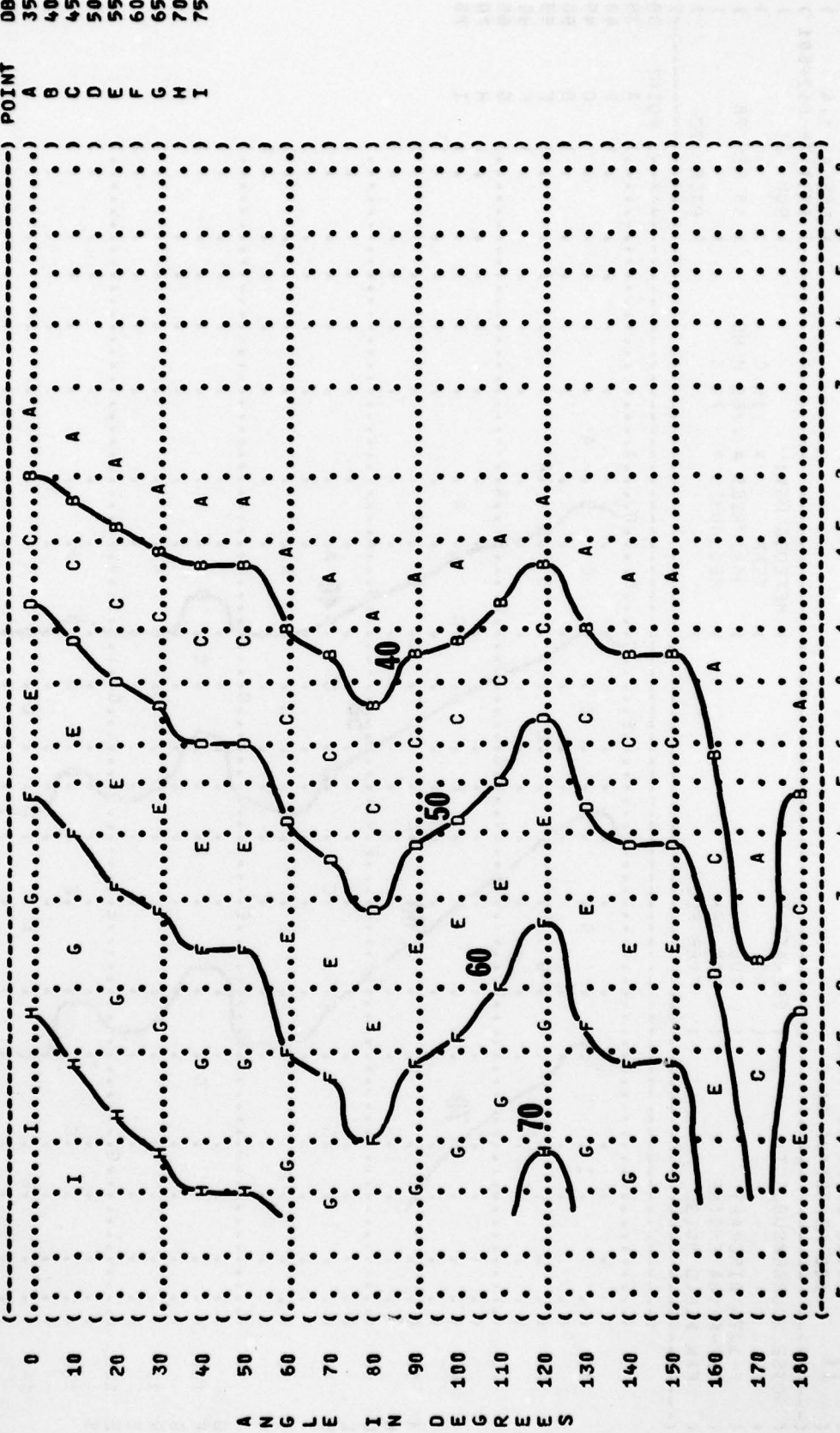
A N G L E I N D E G R E E S



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 500 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( ( TEMPERATURE = 15 C  
 ( J57-P-23A ENGINE ( ( BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ( ( REL HUMID = 70 %  
 ( ( ( ( ( PAGE 22  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 01  
 ( 18 SEP 78  
 (



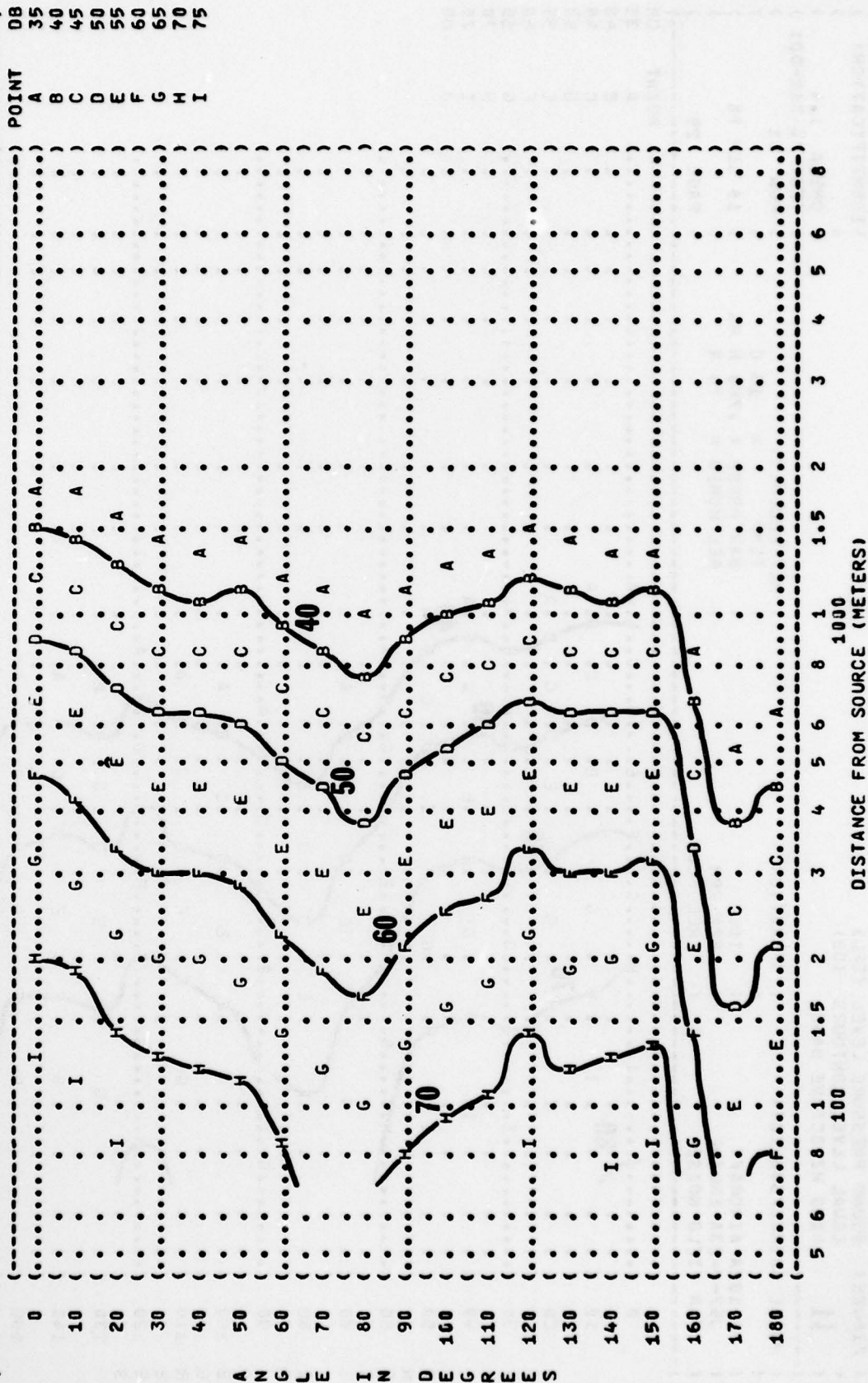
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 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 1000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( ( IDLE  
 ( J57-P-23A ENGINE ( ( 57% RPM  
 ( FAR FIELD NOISE ( ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 23  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 01  
 ( 18 SEP 78  
 ( )



A N G L E I N D E G R E E S

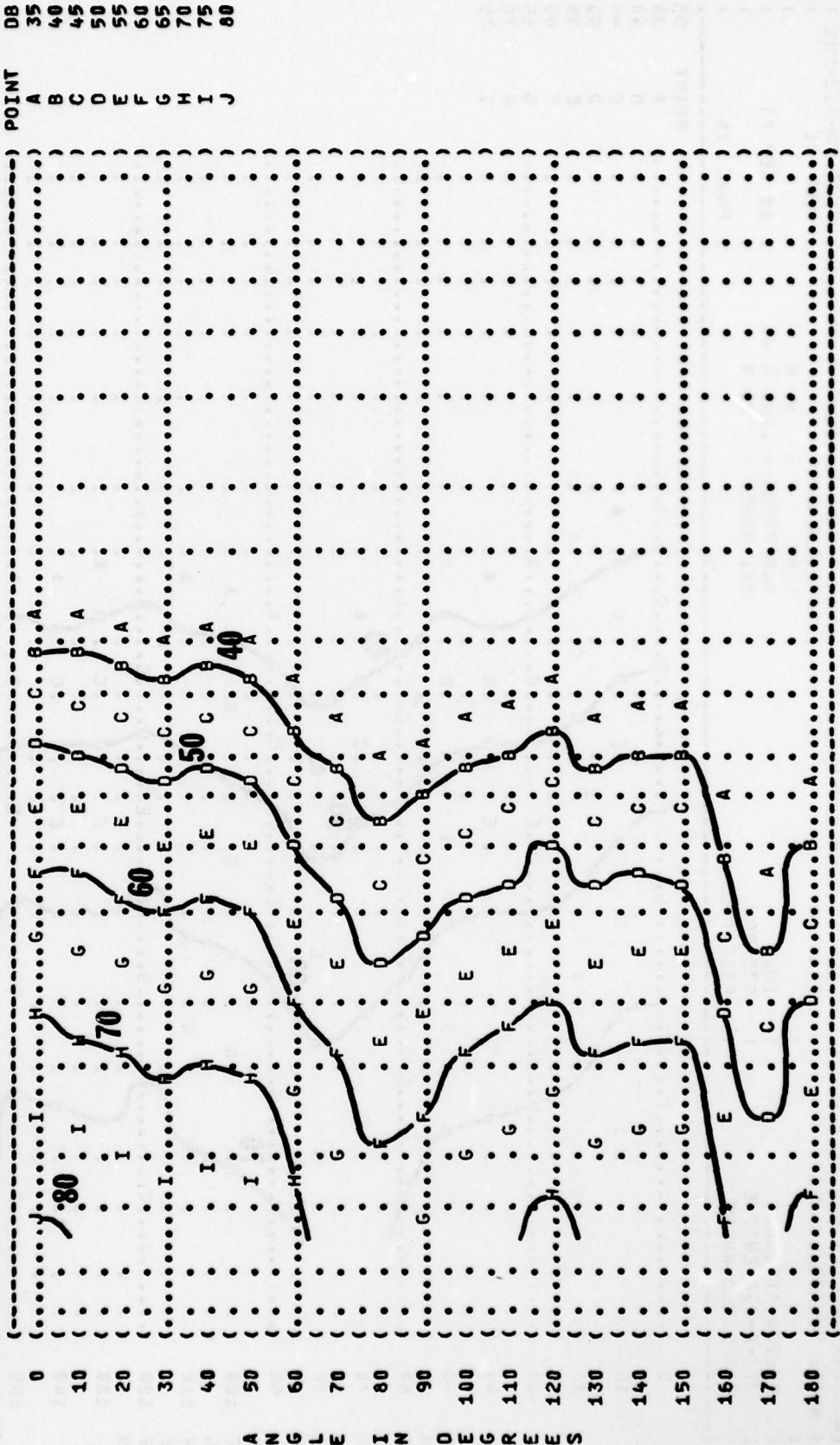
DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL (SPL)	IDENTIFICATION:
EQUAL LEVEL CONTOURS (DB)	
11	OMEGA 1.4
2000 HZ OCTAVE BAND	TEST 78-012-001
NOISE SOURCE/SUBJECT:	RUN 01
OPERATION:	METEOROLOGY:
TEMP = 15 C	
IDLE	BAR PRESS = .760 M HG
57% RPM	REL HUMID = 70 %
FREE FLOW	
F-102A AIRCRAFT	
J57-P-23A ENGINE	10 SEP 78
FAR FIELD NOISE	PAGE 24





( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 4000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( ( IDLE  
 ( J57-P-23A ENGINE ( ( 57% RPM  
 ( FAR FIELD NOISE ( ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 01  
 ( 18 SEP 78  
 ( PAGE 25



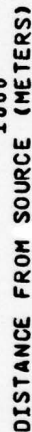
DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-CO  
RUN 01

METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

10 SEP 78  
PAGE 26



420 JE HZ DECEMBER

IDENTIFICATION:  
OMEGA 1.4

**OMEGA 1.4**

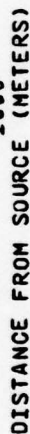
## 1) METEOROLOGY:

**RUN 02**

BAR PRESS = .760 M

REL HUMID = 70 %

**PAGE 18**



420 JE HZ DEUGUEWS



**FIGURE: SOUND PRESSURE LEVEL {SPL}  
EQUAL LEVEL CONTOURS (DB)  
11 63 HZ OCTAVE BAND**

IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-001

NOISE SOURCE/SUBJECT:

**( OPERATION:**

) METEOROLOGY:

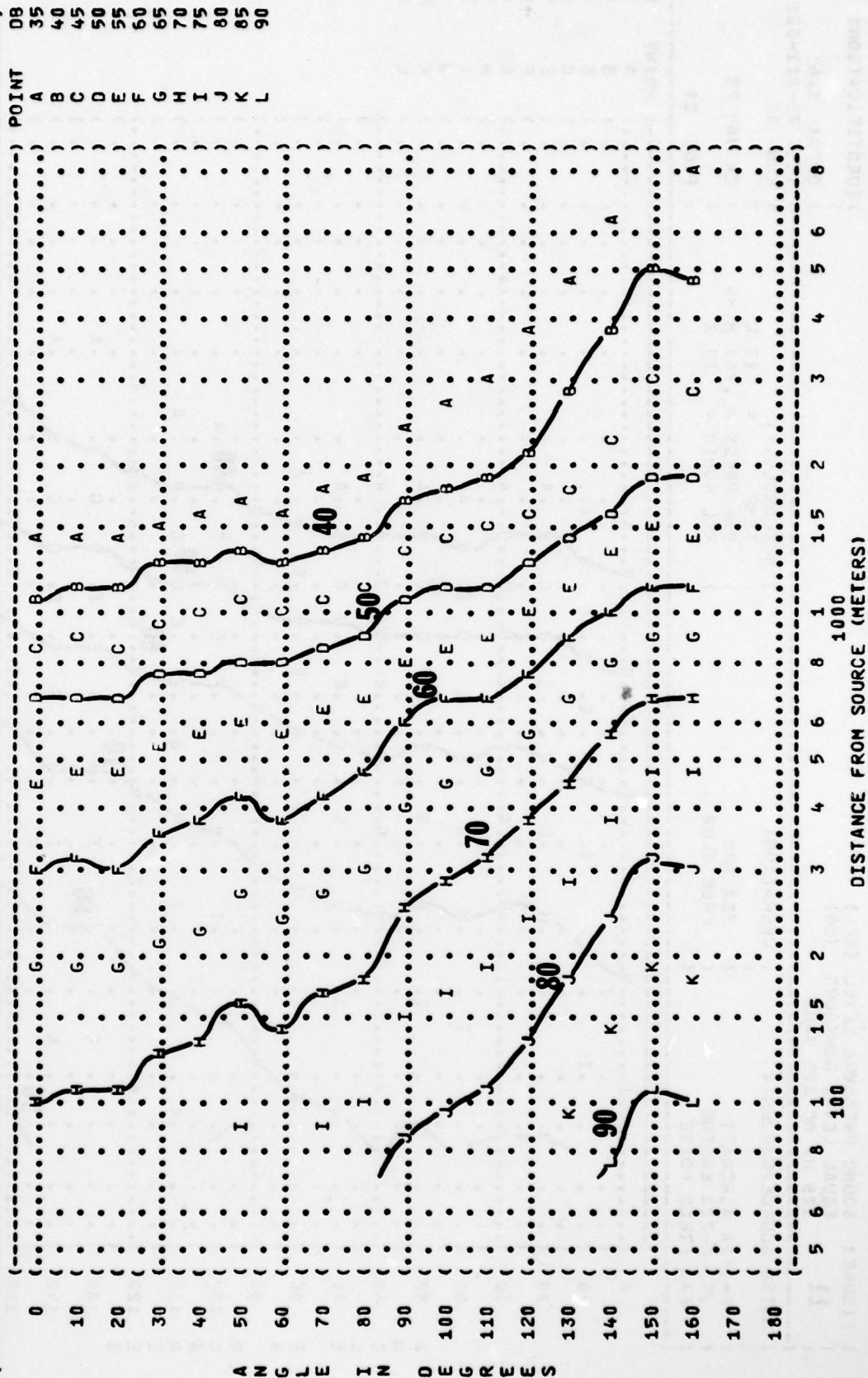
F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

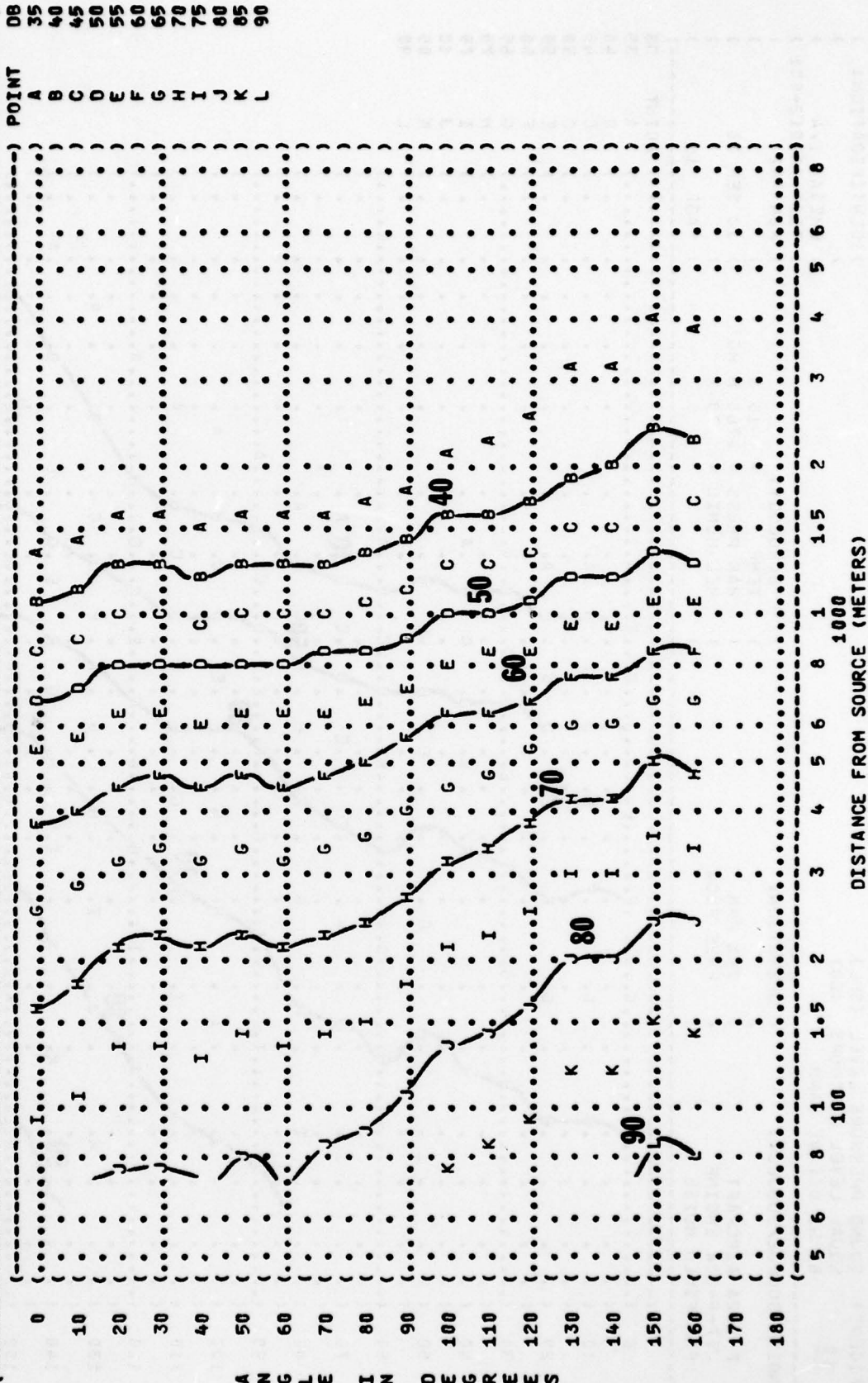
**RUN 02**

18 SEP 78

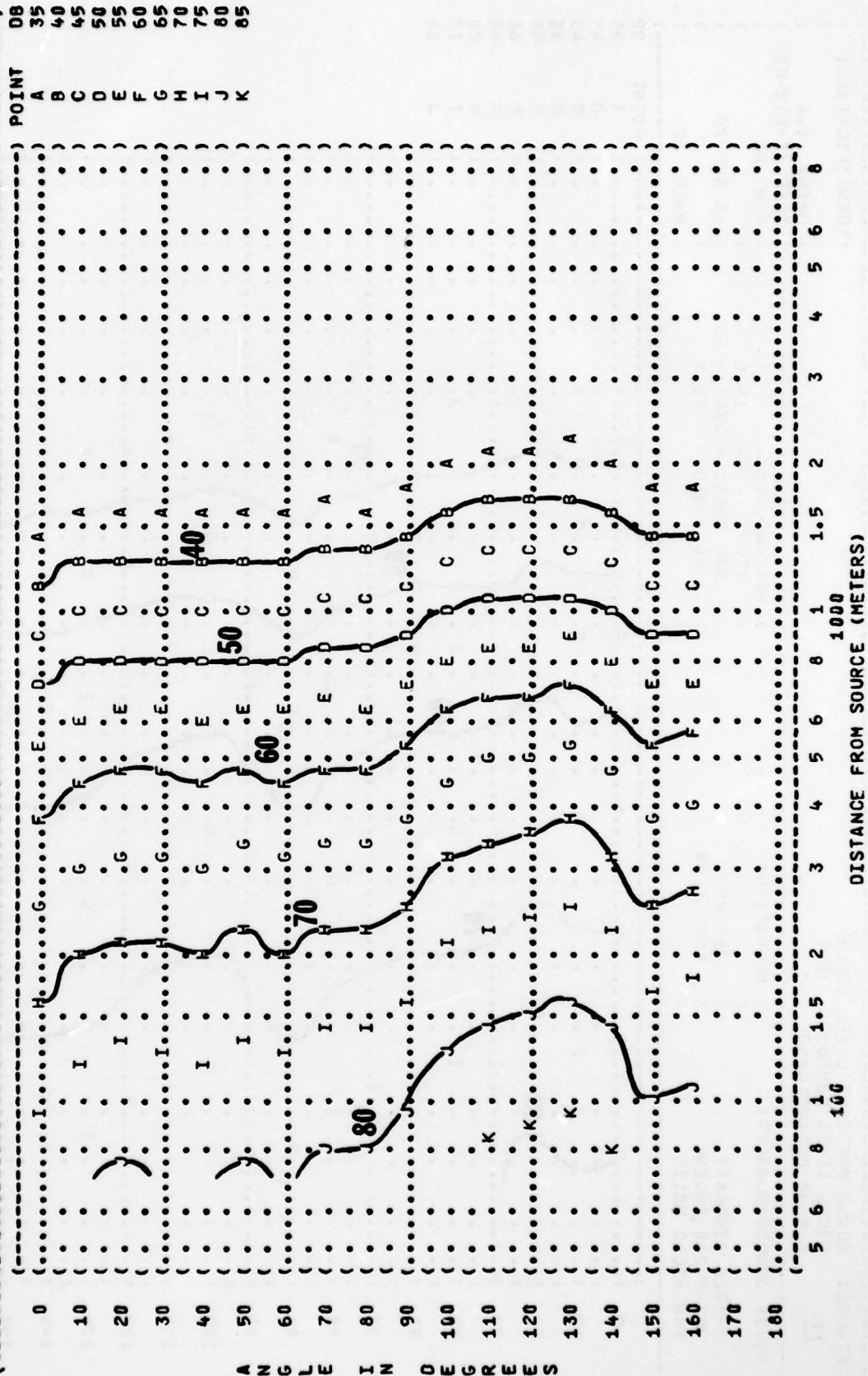
**PAGE 19**



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(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
( EQUAL LEVEL CONTOURS (DB) ) )
( 11 ) OMEGA 1.4 )
( 125 HZ OCTAVE BAND ) TEST 78-012-001 )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) RUN 02 )
( ) TEMP = 15 C ) )
( F-102A AIRCRAFT ) BAR PRESS = .760 M HG ) 24 JAN 79 )
( J57-P-23A ENGINE ) REL HUMID = 70 % ) )
( FAR FIELD NOISE ) PAGE 20 )
(-----)
```

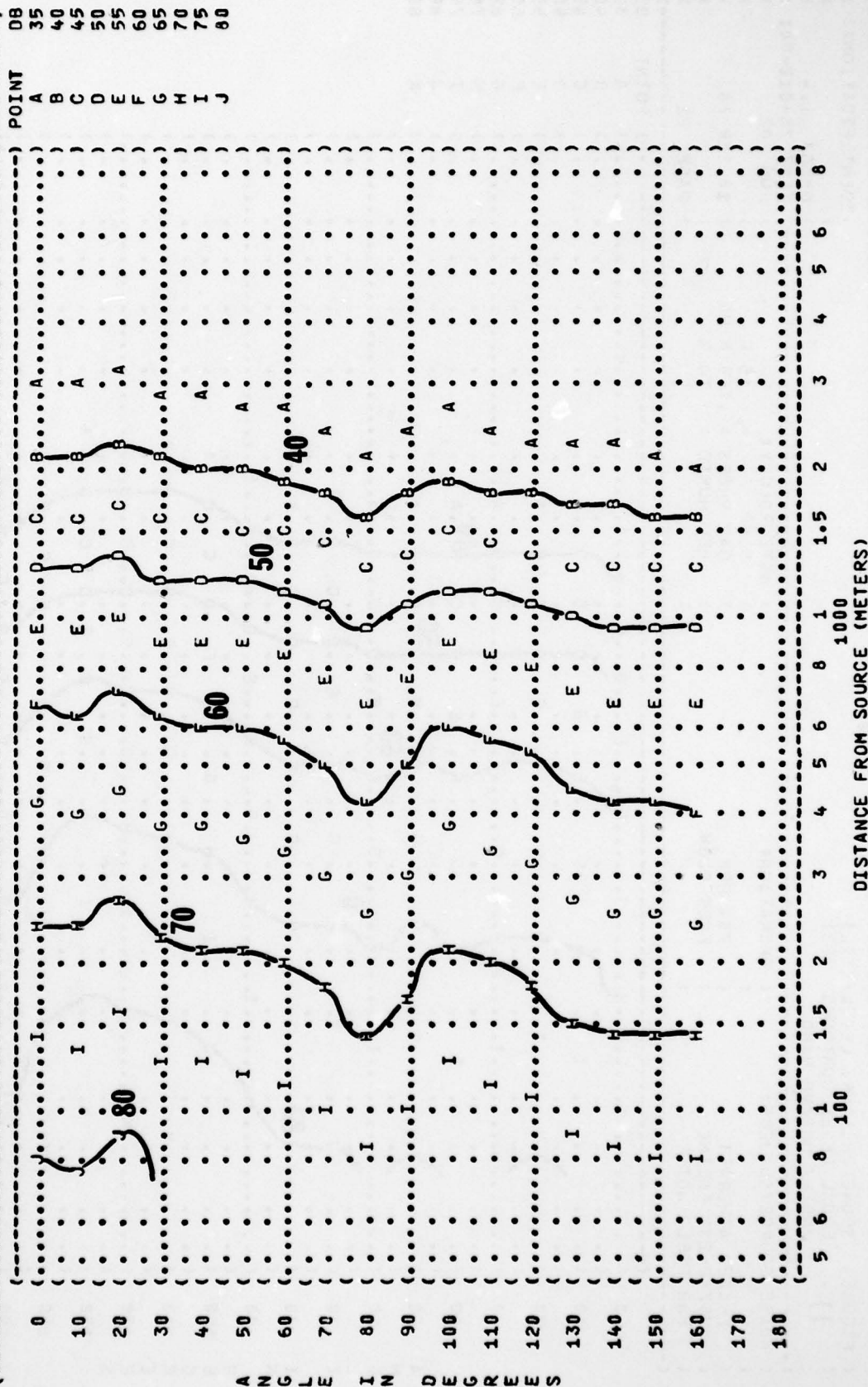


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(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
(      11 EQUAL LEVEL CONTOURS (DB) ) )
(      250 HZ OCTAVE BAND ) OMEGA 1.4 )
(-----) TEST 78-012-001 )
( NOISE SOURCE/SUBJECT: ) RUN 02 )
( ) METEOROLOGY: )
( ) TEMP = 15 C )
( F-102A AIRCRAFT ) BAR PRESS = .760 M HG )
( J57-P-23A ENGINE ) REL HUMID = 70 % )
( FAR FIELD NOISE ) PAGE 21 )
(-----)
```





( ) IDENTIFICATION: ( )  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 02  
 ( )  
 ( ) METEOROLOGY: ( )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( )  
 ( ) OPERATION: ( )  
 ( ) 75% RPM  
 ( ) FREE FLOW  
 ( )  
 ( ) NOISE SOURCE/SUBJECT: ( )  
 ( ) F-102A AIRCRAFT  
 ( ) J57-P-23A ENGINE  
 ( ) FAR FIELD NOISE



A N G L E I N D E G R E E S

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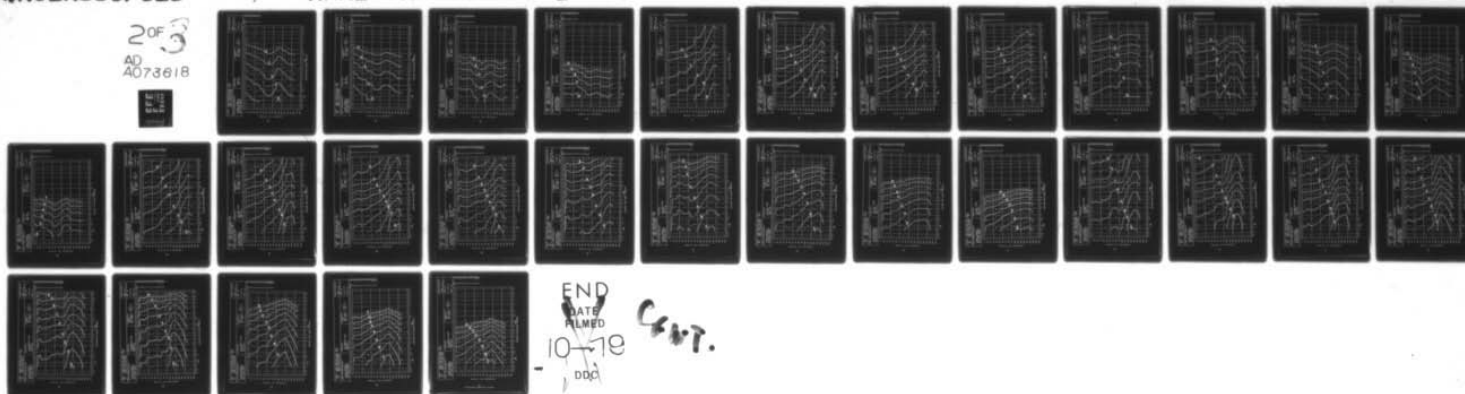
AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OH F/G 1/3  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 138. F-102A A--ETC(U)  
OCT 78 R & POWELL

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AMRL-TR-75-50-VOL-138

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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



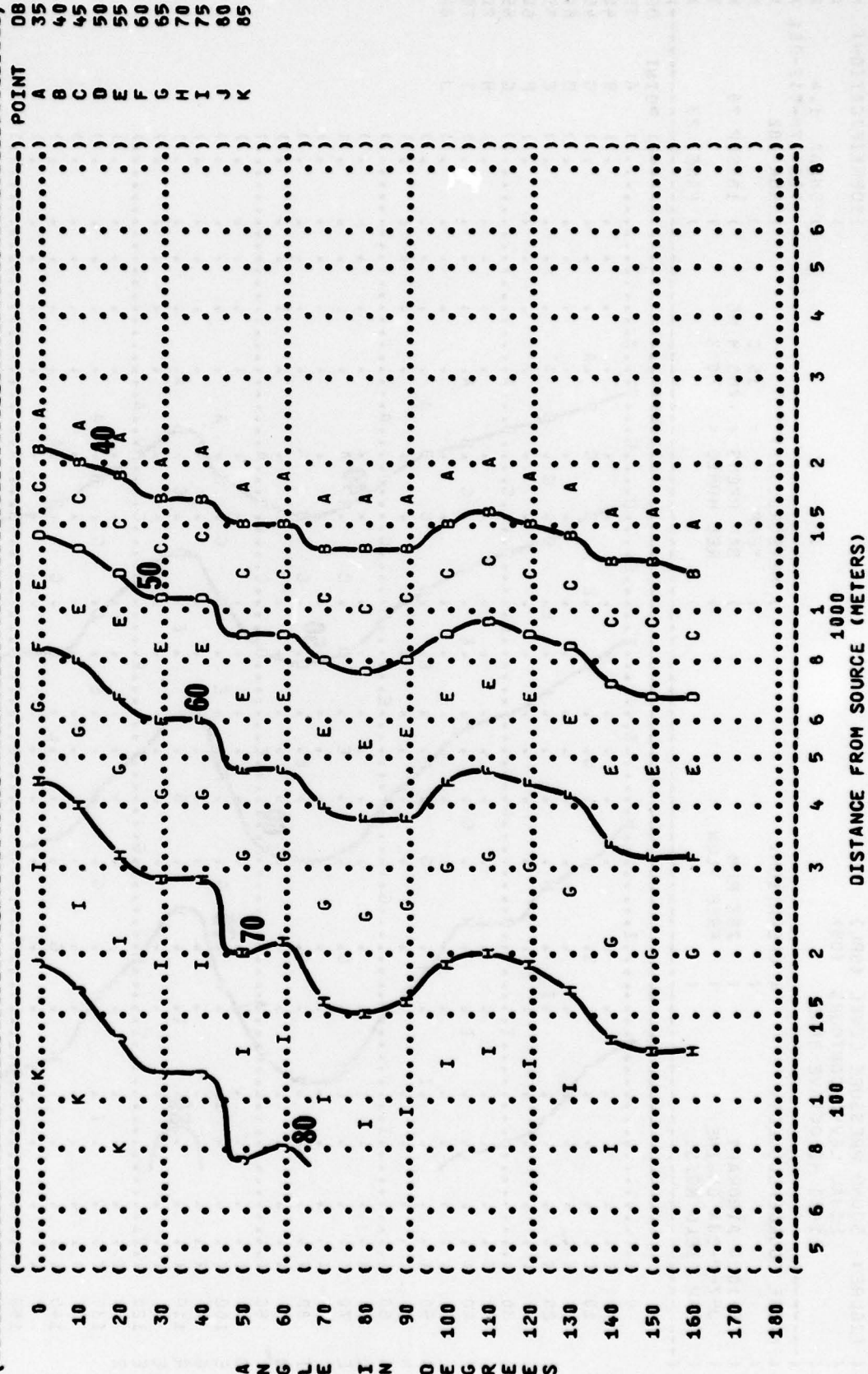
IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-001

## 0 METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %



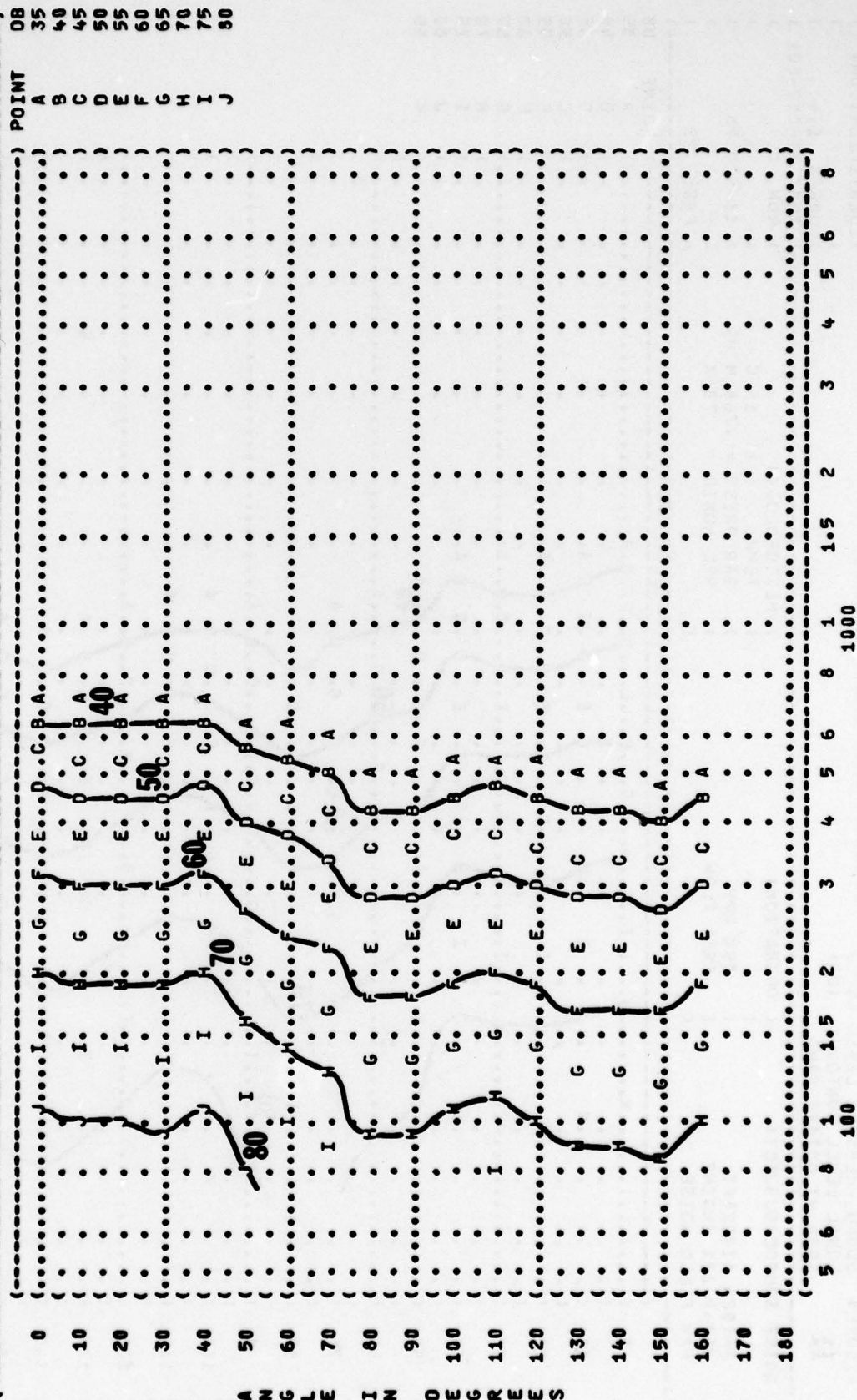
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( 75% RPM  
 ( J57-P-23A ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) RUN 02  
 ( ) TEST 78-012-001  
 ( ) OMEGA 1.4  
 ( ) IDENTIFICATION:







( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( 75% RPM  
 ( J57-P-23A ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 26  
 ( IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 02

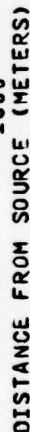


A N G L E I N D E C R E E S

IDENTIFICATION:  
OMEGA 1.4  
TEST 70-012-001

) METEOROLOGY:  
 ) TEMP = 15 C  
 ) BAR PRESS = .760 M HG  
 ) REL HUMID = 70 %

**PAGE 18**



**FIGURE 11** SOUND PRESSURE LEVEL {SPL} EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

## IDENTIFICATION:

**OMEGA 1.4**

**TEST 78-012-001**

**RUN 03**

**NOISE SOURCE/SUBJECT:**

## OPERATION:

## ● METEOROLOGY:

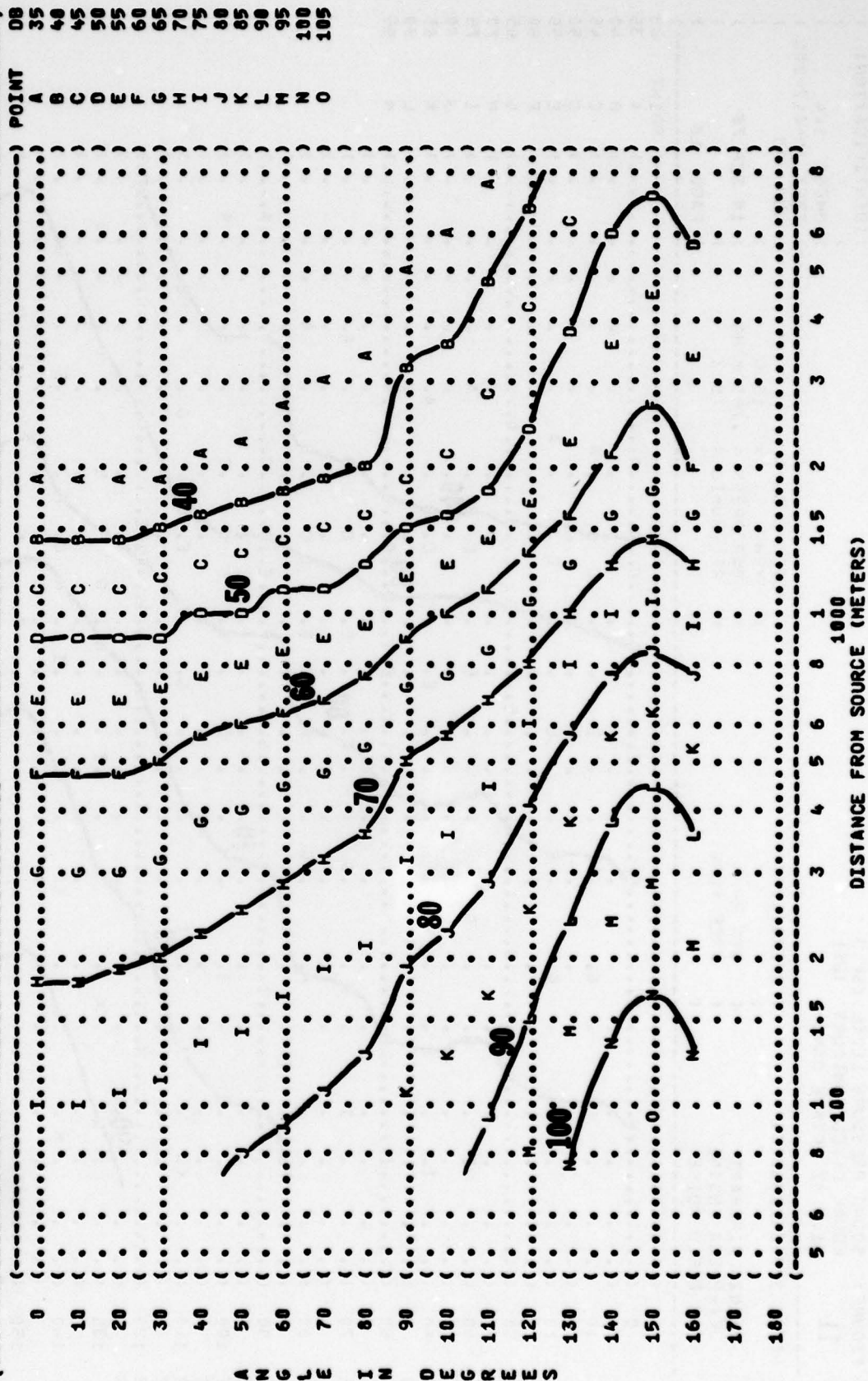
TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

**PAGE 19**

.....





**SOUND PRESSURE LEVEL {SPL}  
EQUAL LEVEL CONTOURS (DB)  
125 HZ OCTAVE BAND**

11

### IDENTIFICATION:

**OMEGA 1.4**

TEST 78-012-001

**RUN 03**

## 0 METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

## OPERATION:

**85% RPM**

**FREE FLOW**

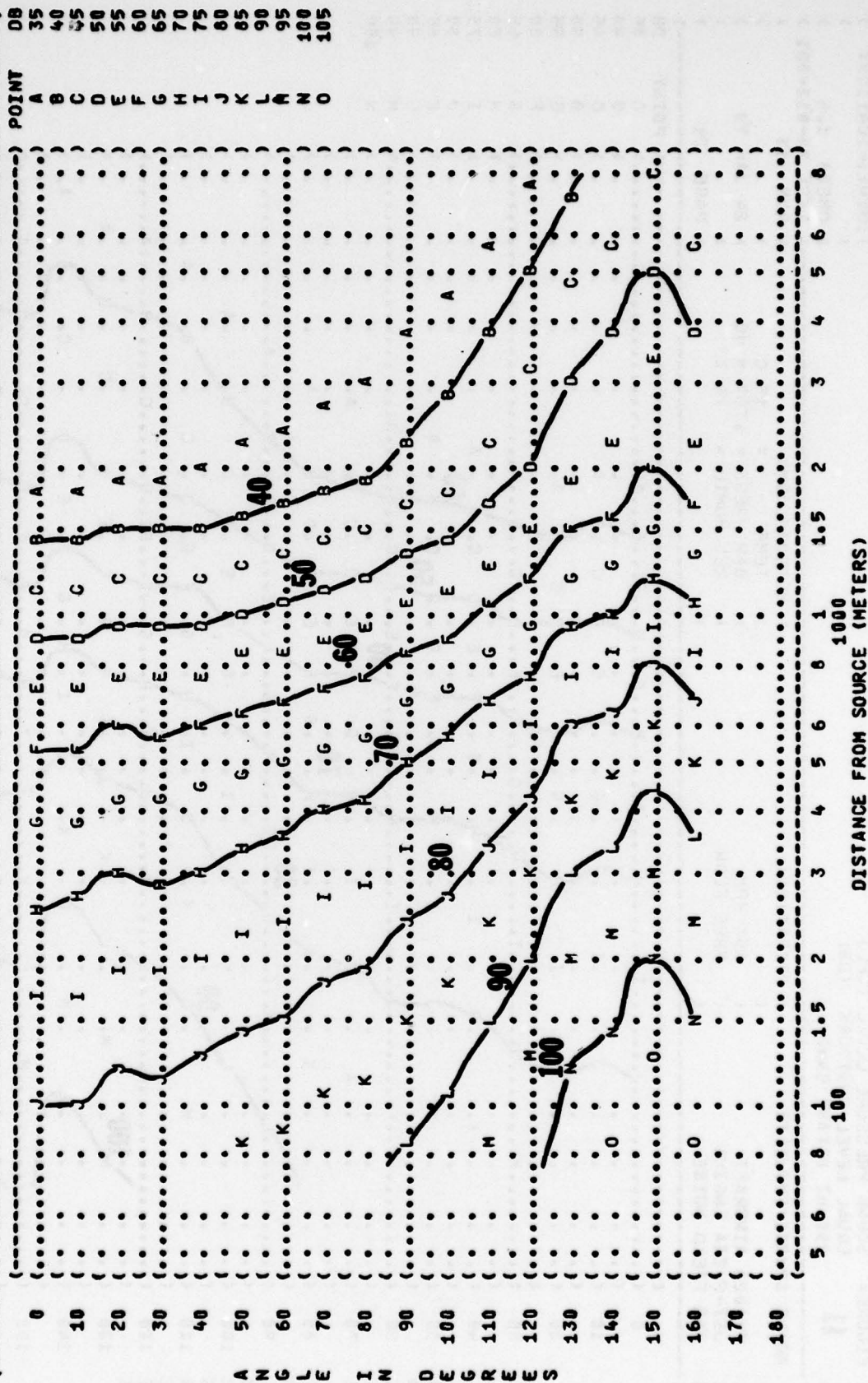
**NOISE SOURCE/SUBJECT:**

**F-102A AIRCRAFT**

**J57-P-23A ENGINE**

## FAR FIELD NOISE

**0 PAGE 20**



IDENTIFICATIONS:  
OMEGA 1.4

**OMEGA 1.4**

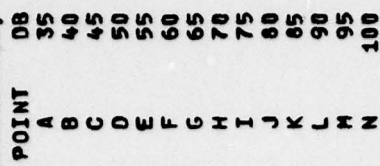
METEOROLOGY 3

**RUN 03**

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

24 JAN 79

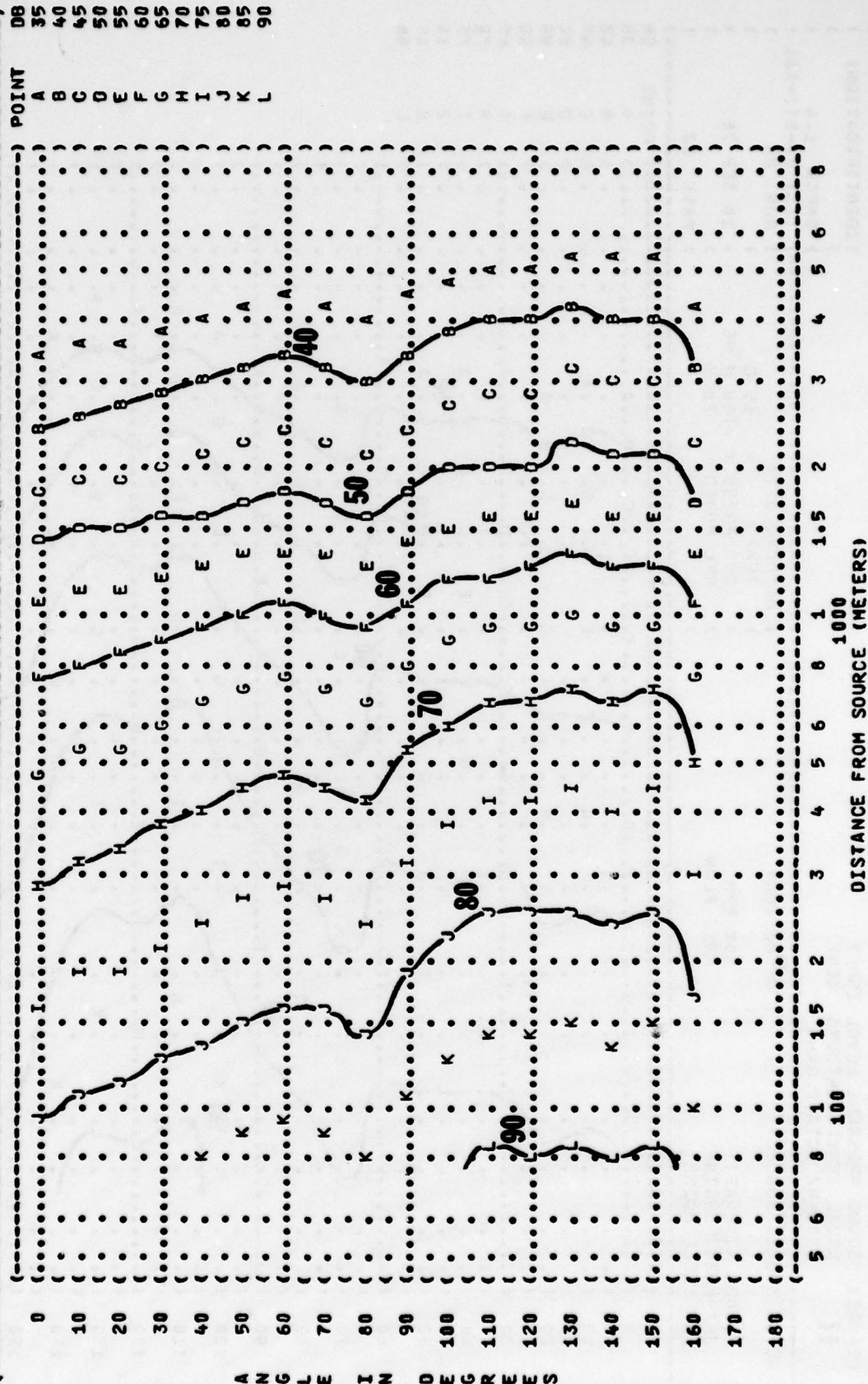
**PAGE 21**



ANGIE IN DEGREES



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 500 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( 85% RPM  
 ( J57-P-23A ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 24 JAN 79  
 ( ) PAGE 22  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 03





```
(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION:
( EQUAL LEVEL CONTOURS (DB) )
( 11 ) OMEGA 1.4
( 1000 HZ OCTAVE BAND ) TEST 78-012-001
( NOISE SOURCE/SUBJECT: ) METEOROLOGY:
( OPERATION: ) TEMP = 15 C
( ) BAR PRESS = .760 M HG
( F-102A AIRCRAFT ) REL HUMID = 70 %
( J57-P-23A ENGINE )
( FAR FIELD NOISE ) PAGE 23
(-----)
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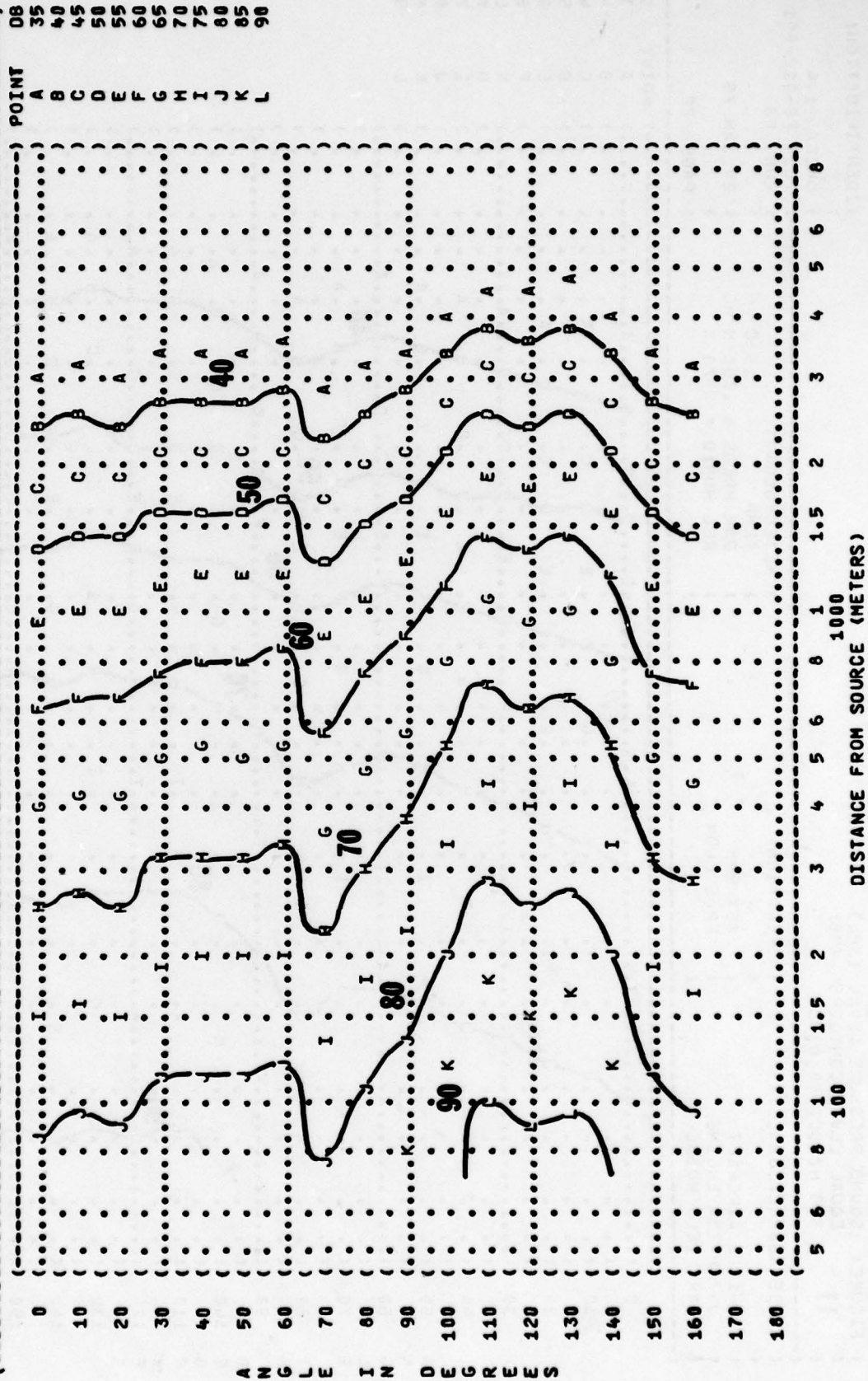
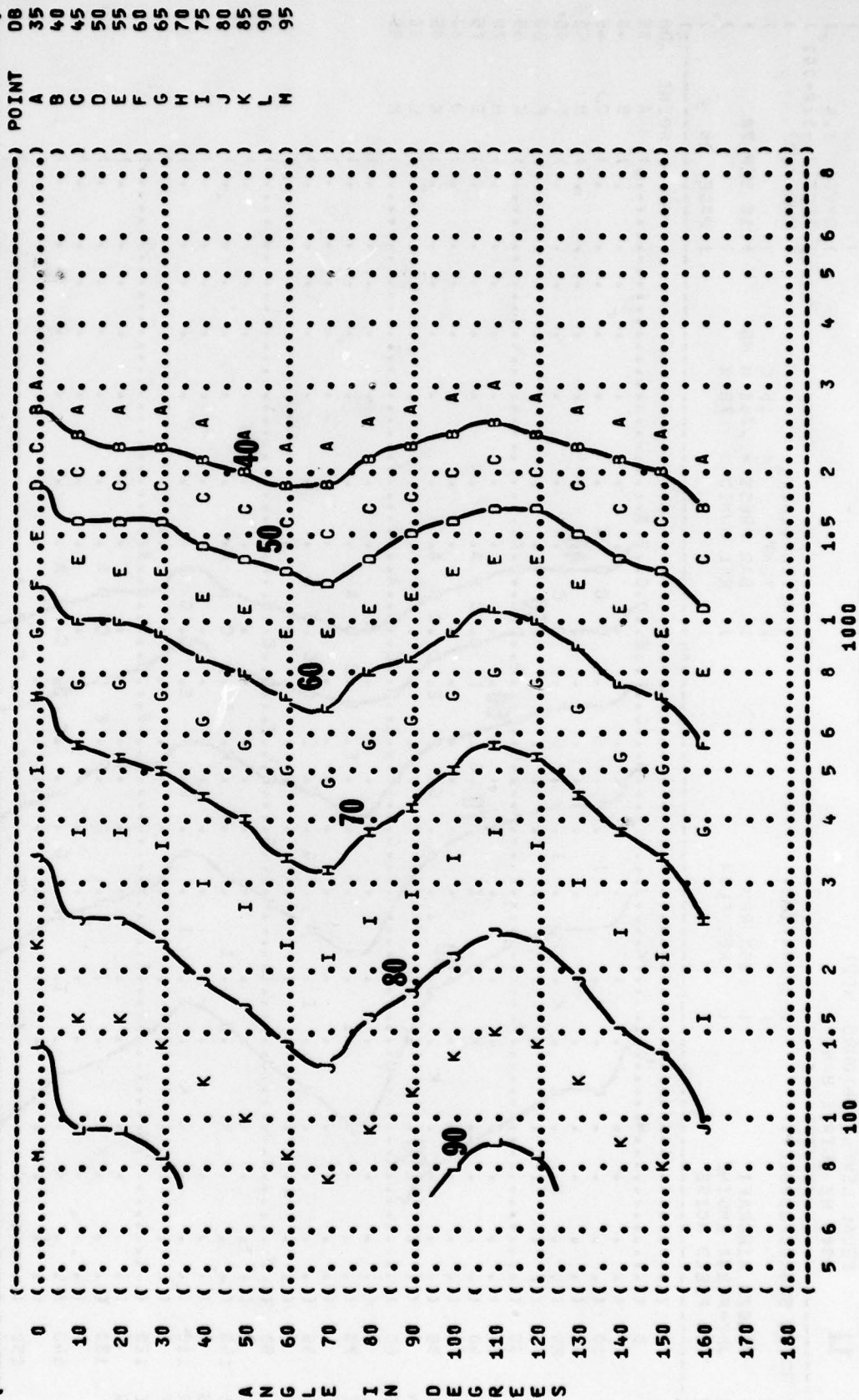


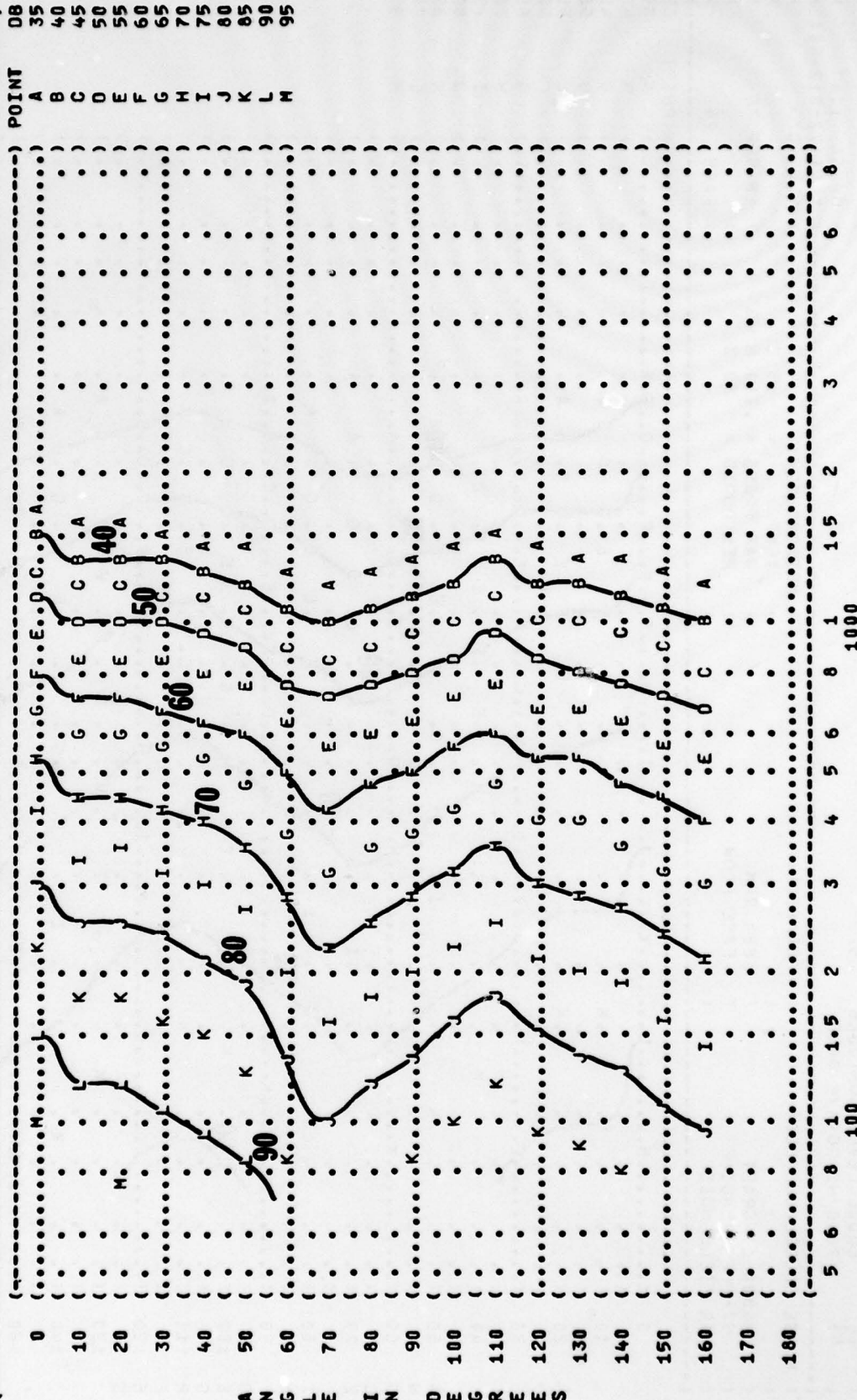
FIGURE: SOUND PRESSURE LEVEL (SPL)  
 11 EQUAL LEVEL CONTOURS (DB)  
 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( ) OPERATION: ( ) METEOROLOGY: ( )  
 ( ) F-102A AIRCRAFT ( ) 85% RPM ( ) TEMP = 15 C  
 ( ) J57-P-23A ENGINE ( ) FREE FLOW ( ) BAR PRESS = .760 M HG  
 ( ) FAR FIELD NOISE ( ) ( ) REL HUMID = 70 %

IDENTIFICATION: ( )  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 03  
 ( ) 18 SEP 78  
 ( ) PAGE 24



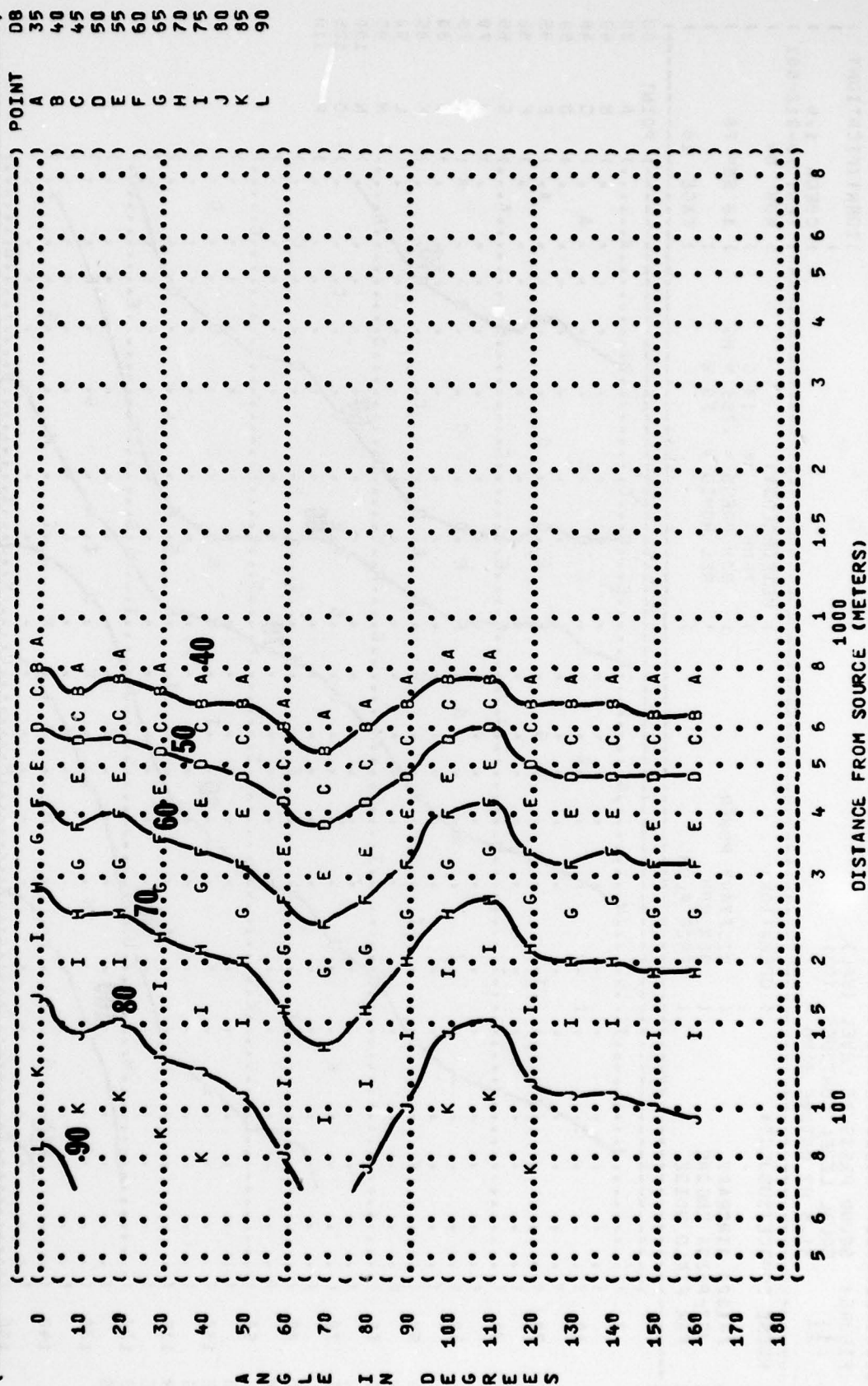
( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 4000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( 85% RPM  
 ( J57-P-23A ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )  
 ( ) METEOROLOGY: ( )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 K HG  
 ( ) REL HUMID = 70 %  
 ( ) 10 SEP 78  
 ( ) RUN 03  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) PAGE 25



ANGLE IN DEGREES



FIGURE: SOUND PRESSURE LEVEL {SPL}	IDENTIFICATION:
11	
EQUAL LEVEL CONTOURS (DB)	
8000 HZ OCTAVE BAND	OMEGA 1.4
	TEST 78-012-001
NOISE SOURCE/SUBJECT:	RUN 03
	METEOROLOGY:
	TEMP = 15 C
F-102A AIRCRAFT	BAR PRESS = .760 M HG
J57-P-23A ENGINE	REL HUMID = 70 %
FAR FIELD NOISE	PAGE 2



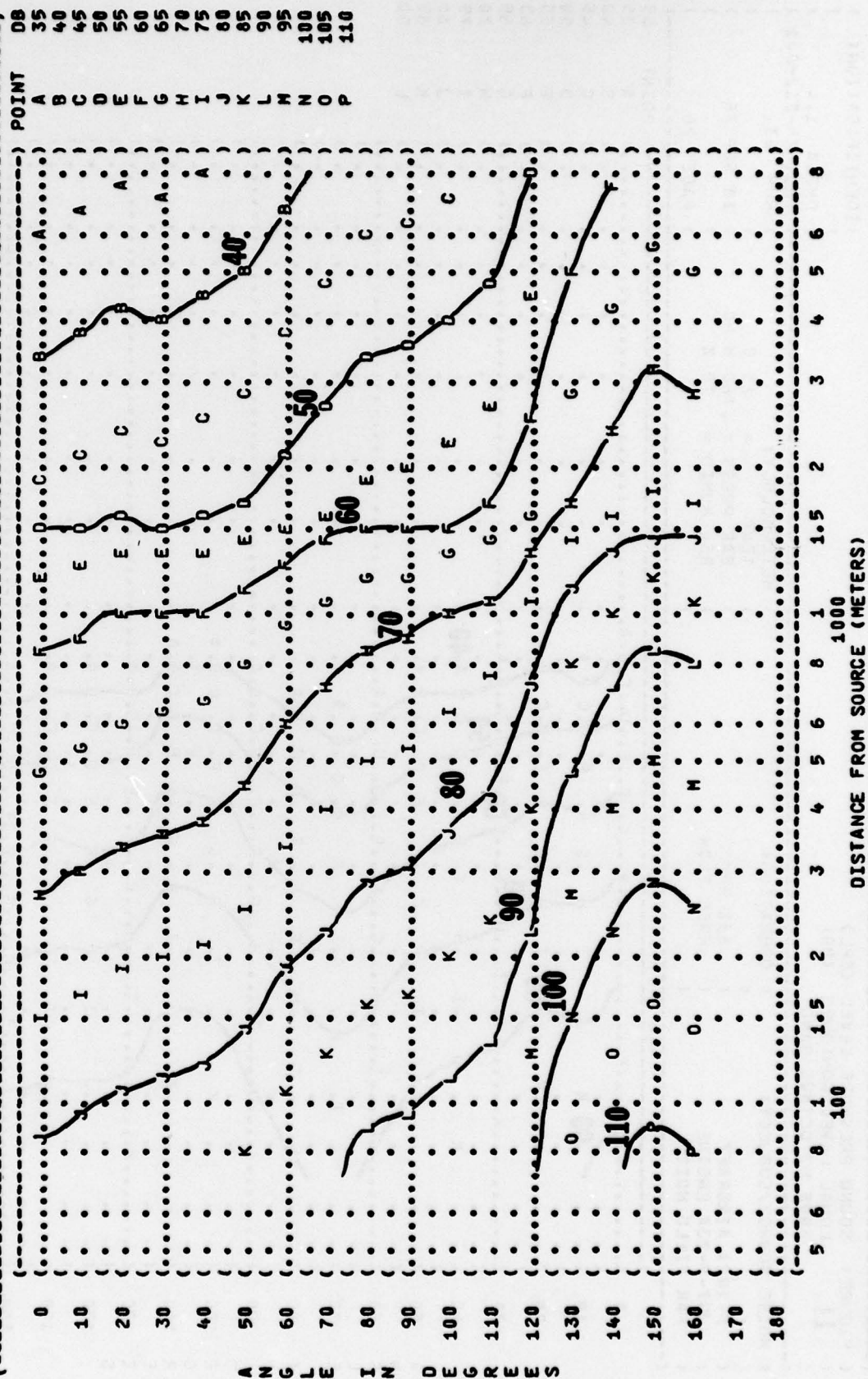
420 JE IN DECKWES

**FIGURE 11** SOUND PRESSURE LEVEL {SPL} EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

11

FIGURE: SOUND PRESSURE LEVEL {SPL}  
EQUAL LEVEL CONTOURS (DB)  
**11**  
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION:  
( ) TEMP = 15 C )  
( ) MILITARY POWER ) BAR PRESS = .760 M HG )  
( ) 96% RPM ) REL HUMID = 70 % )  
( ) FREE FLOW ) ) PAGE 18



IDENTIFICATION:  
OMEGA 1.4

**OMEGA 1.4**

## 9) METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

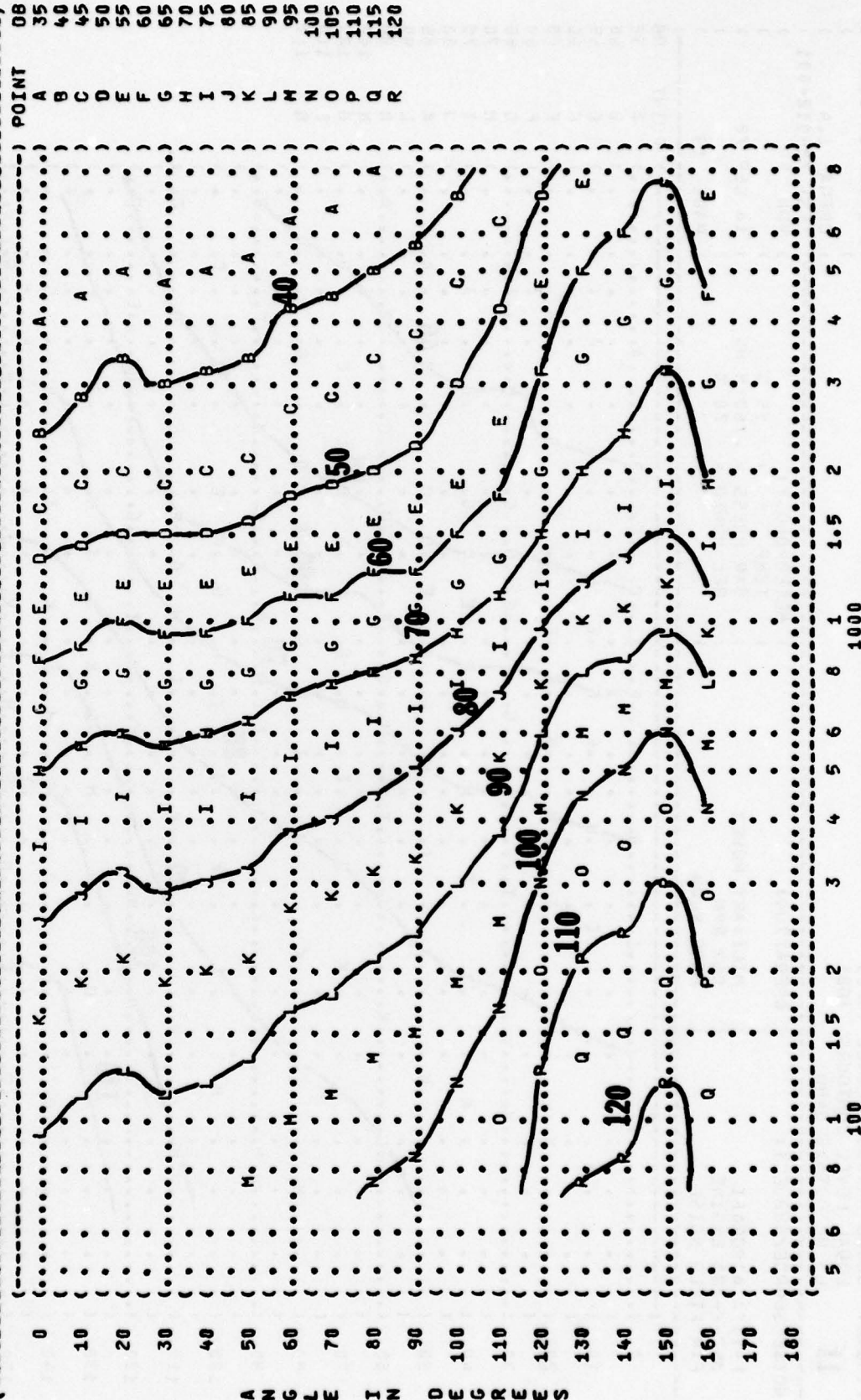
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ANGLE IN DEGREES

DISTANCE FROM SOURCE (METERS)



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( TEMP = 15 C  
 ( J57-P-23A ENGINE ( MILITARY POWER ( BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ( 96% RPM ( REL HUMID = 70 %  
 ( ( FREE FLOW  
 ( METEOROLOGY:  
 ( RUN 04  
 ( TEST 78-012-001  
 ( OMEGA 1.4  
 ( IDENTIFICATION:  
 ( PAGE 20





( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( 11 500 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( F-102A AIRCRAFT )  
 ( J57-P-23A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 96% RPM )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 78-012-001 )  
 ( RUN 04 )  
 ( 18 SEP 78 )  
 ( PAGE 22 )

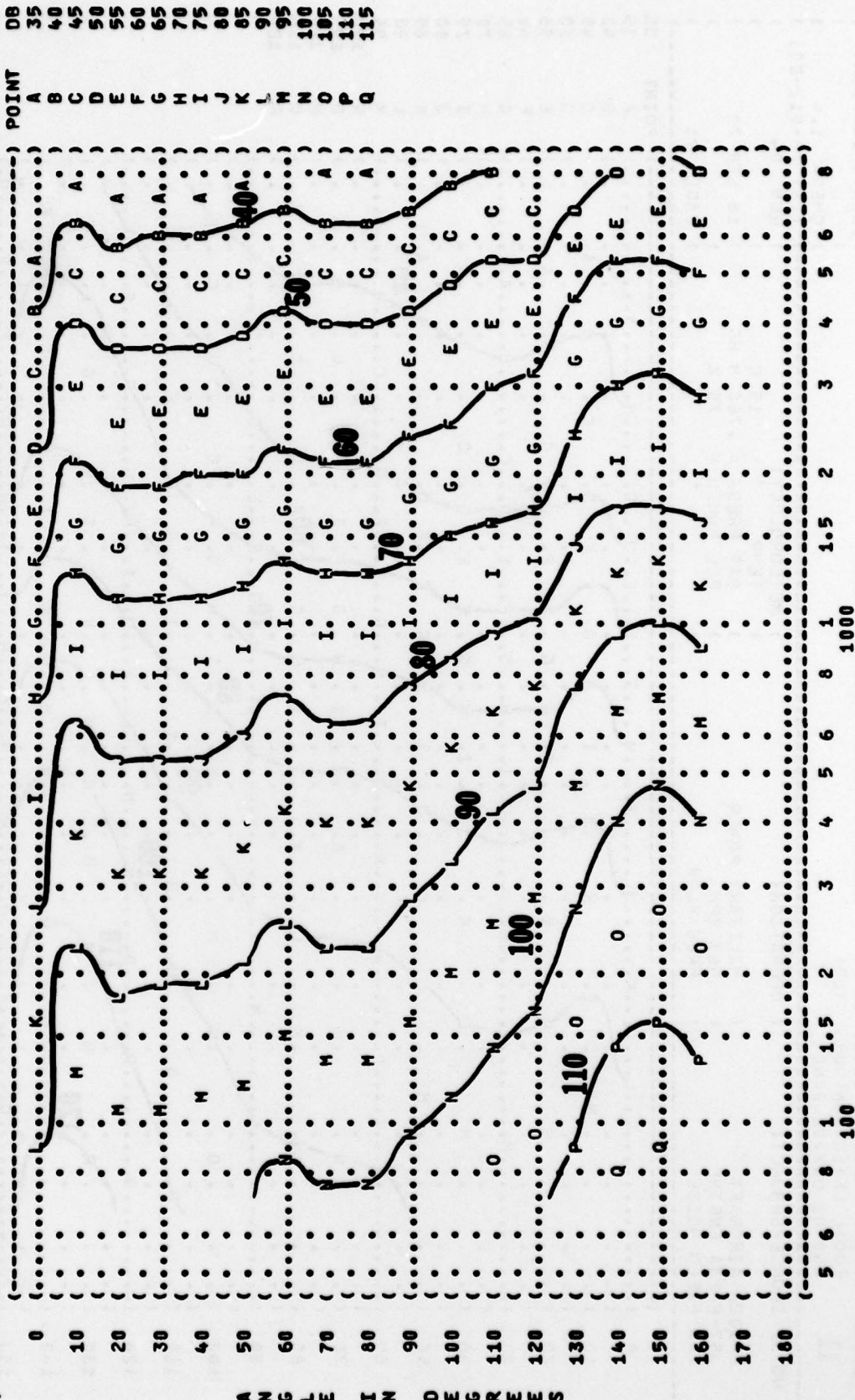




FIGURE: SOUND PRESSURE LEVEL {SPL}  
 11 EQUAL LEVEL CONTOURS (DB)  
 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ( )  
 ( F-102A AIRCRAFT ( MILITARY POWER ( ) TEMP = 15 C  
 ( J57-P-23A ENGINE ( 96% RPM ( ) BAR PRESS = .760 H HG  
 ( FAR FIELD NOISE ( FREE FLOW ( ) REL HUMID = 70 %

IDENTIFICATION: ( )  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 78-012-001  
 ( ) RUN 04  
 ( )  
 ( ) 18 SEP 78  
 ( )  
 ( ) PAGE 23

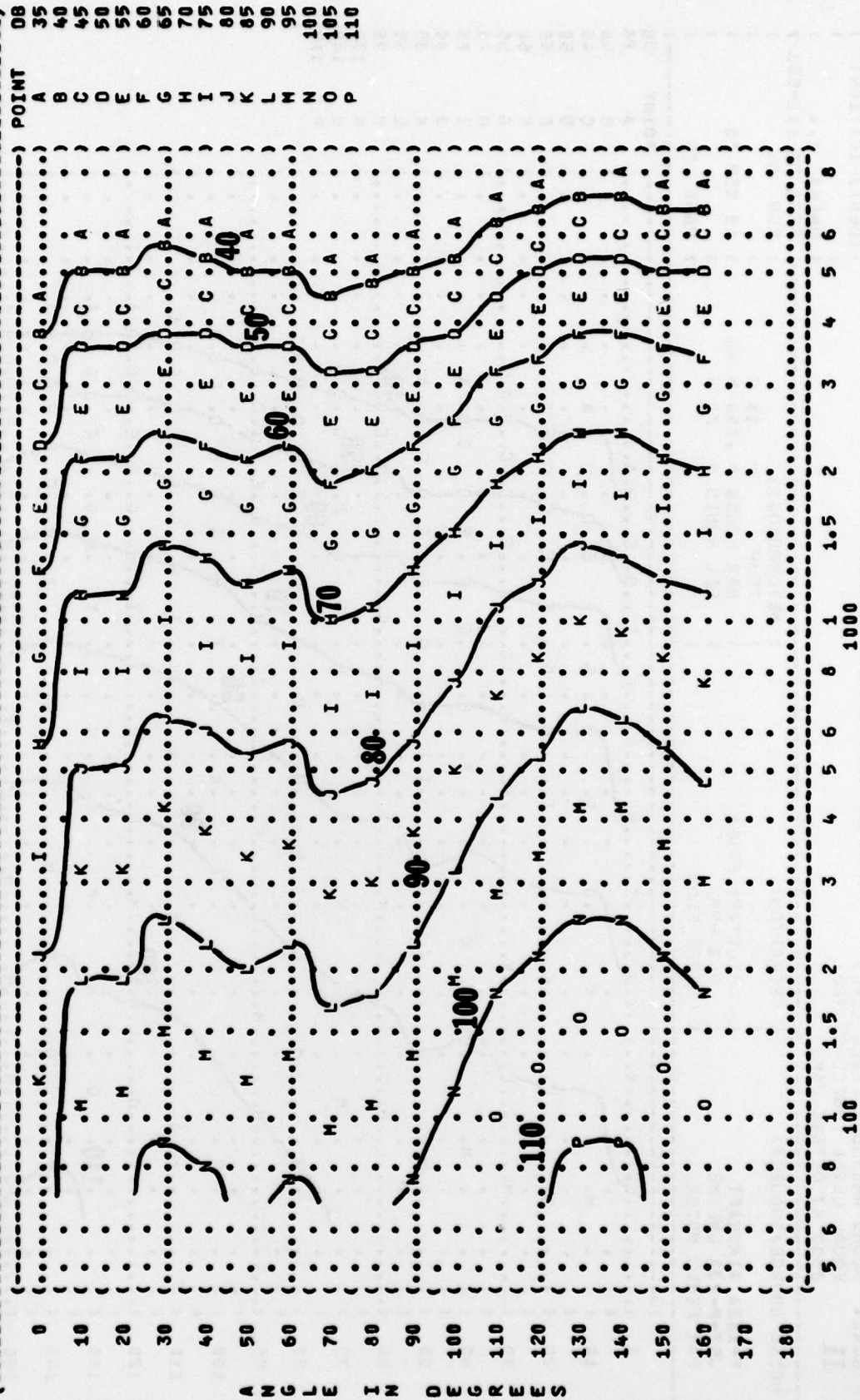


FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUIL LEVEL CONTOURS (DB)  
2000 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

F-102A AIRCRAFT  
J57-P-23A ENGINE  
FAR FIELD NOISE

OPERATION:

MILITARY POWER  
96% RPM  
FREE FLOW

METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:

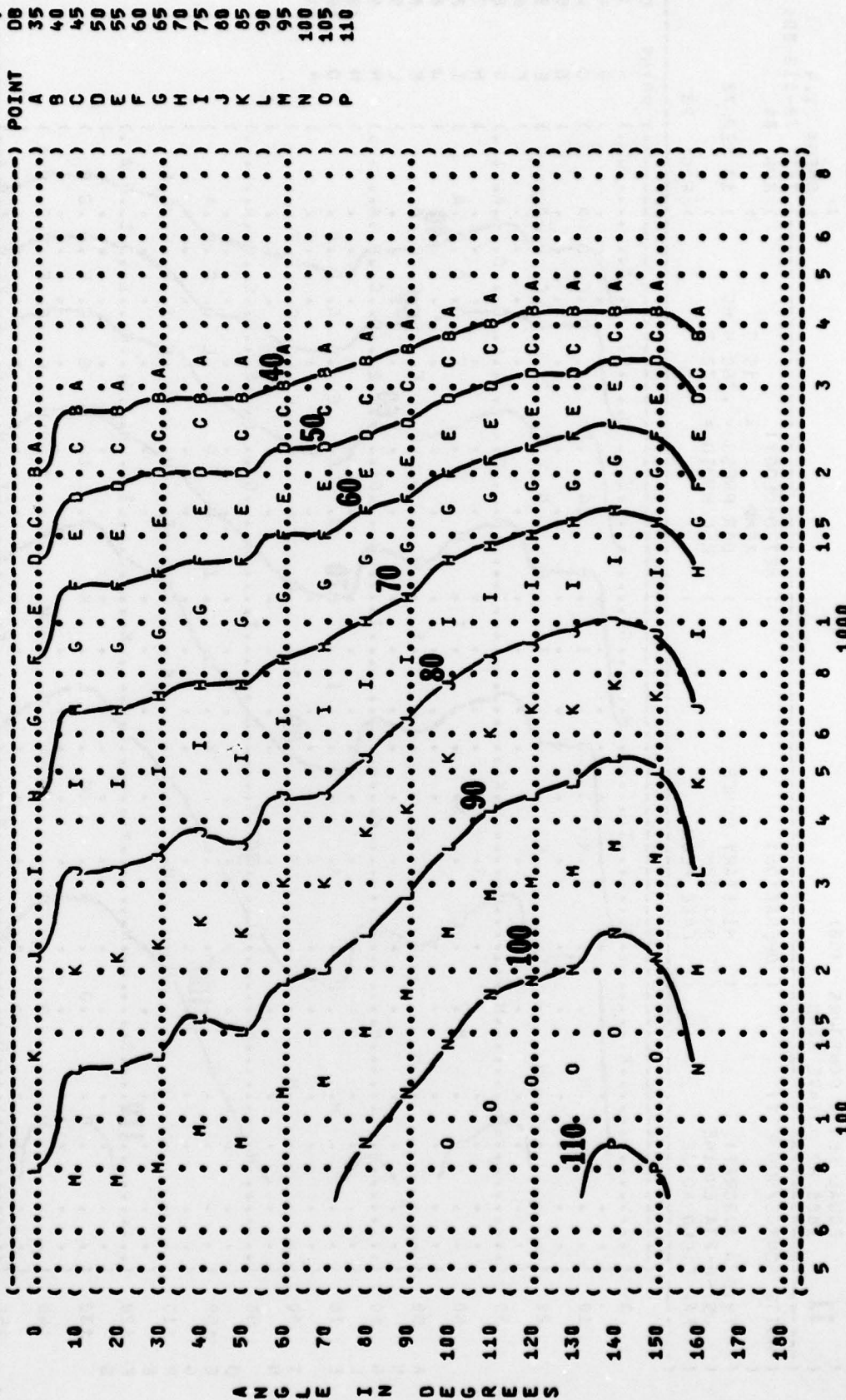
OMEGA 1.4

TEST 78-012-001

RUN 04

18 SEP 78

PAGE 24





IDENTIFICATION:  
OMEGA 1.4

OMEGA 1.4  
TEST 78-012-00  
RUN 04

### ( OPERATIONS

(MILITARY POWER

( 96% RPM

**( FREE FLOW**

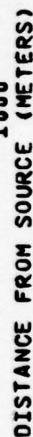
TEMP = 15 C

TEMP = 15 C

BAR PRESS = .760 M HG

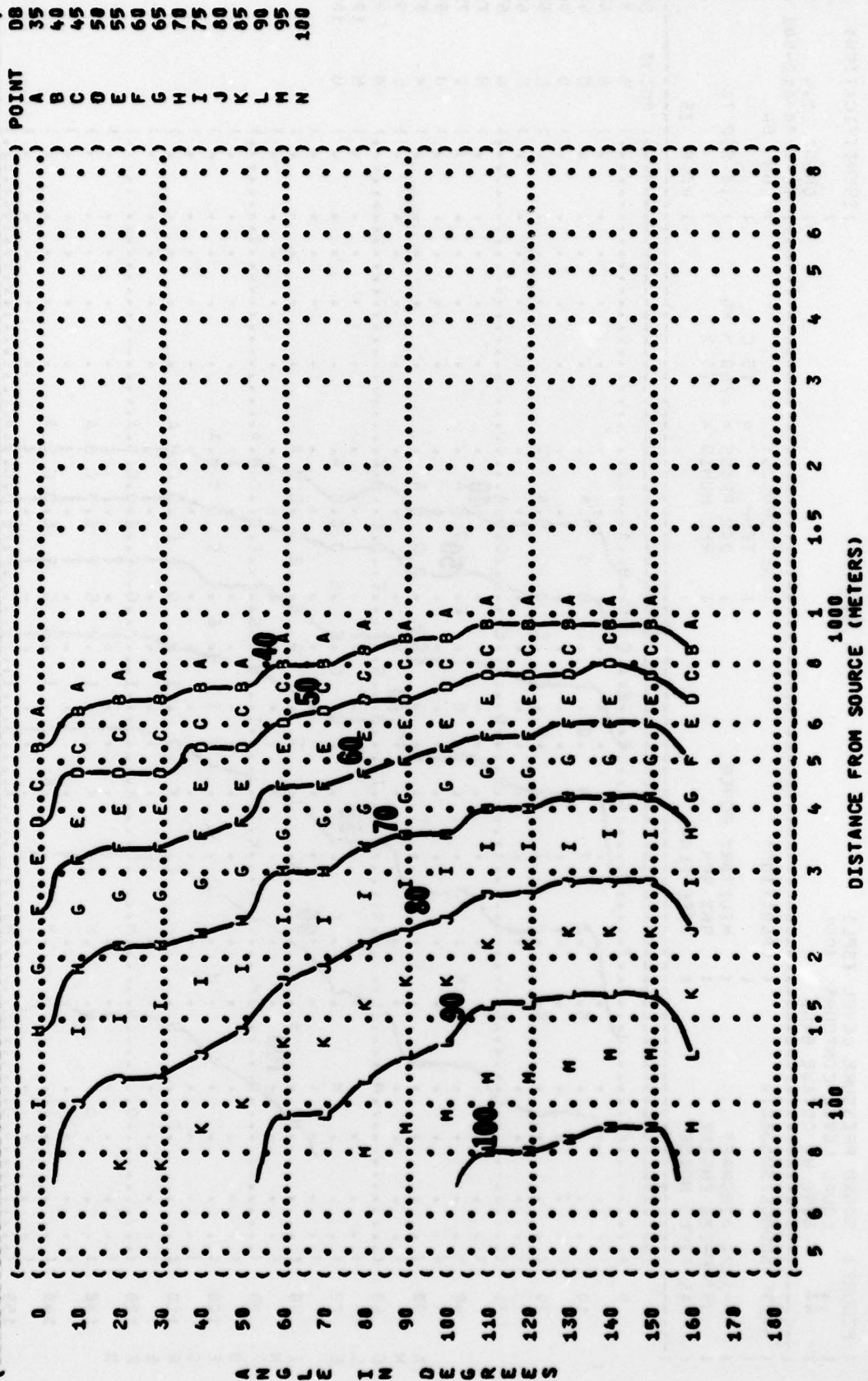
REL HUMID = 70 %

-----) POINT





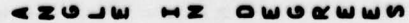
( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( MILITARY POWER  
 ( J57-P-23A ENGINE ( 96% RPM  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 70-012-001  
 ( RUN 04  
 ( 18 SEP 78  
 ( PAGE 26



IDENTIFICATION: )  
OMEGA 1.4 )  
TEST 76-012-001 )  
RUN 05 )

## ► METEOROLOGY:

TEMP = 15 C )  
BAR PRESS = .760 M HG ) 10 SEP 78  
REL HUMID = 70 % )  
PAGE 10 )





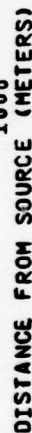
IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-00:

## 1) METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

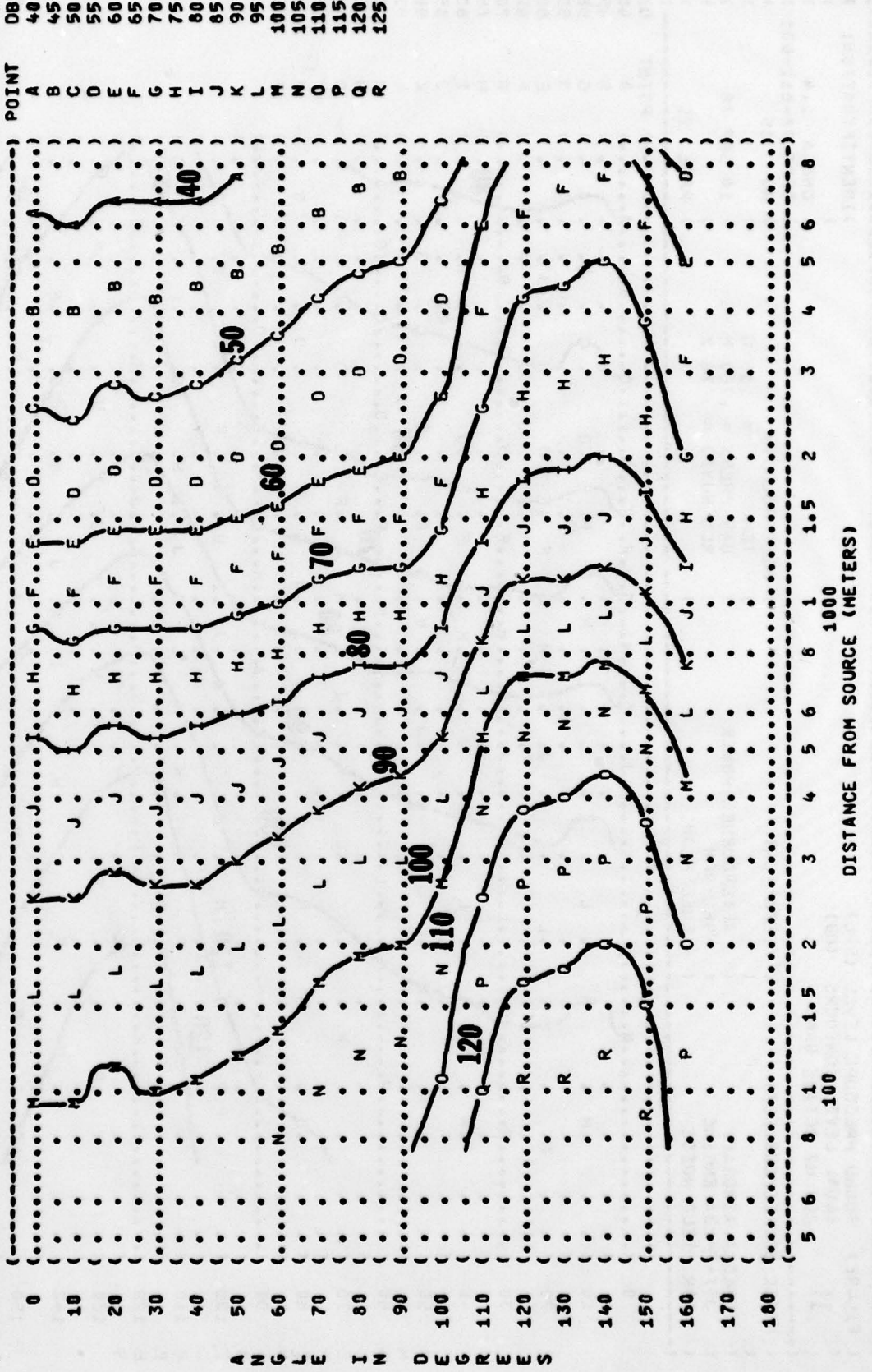
**RUN 05**

18 SEP 78  
PAGE 19

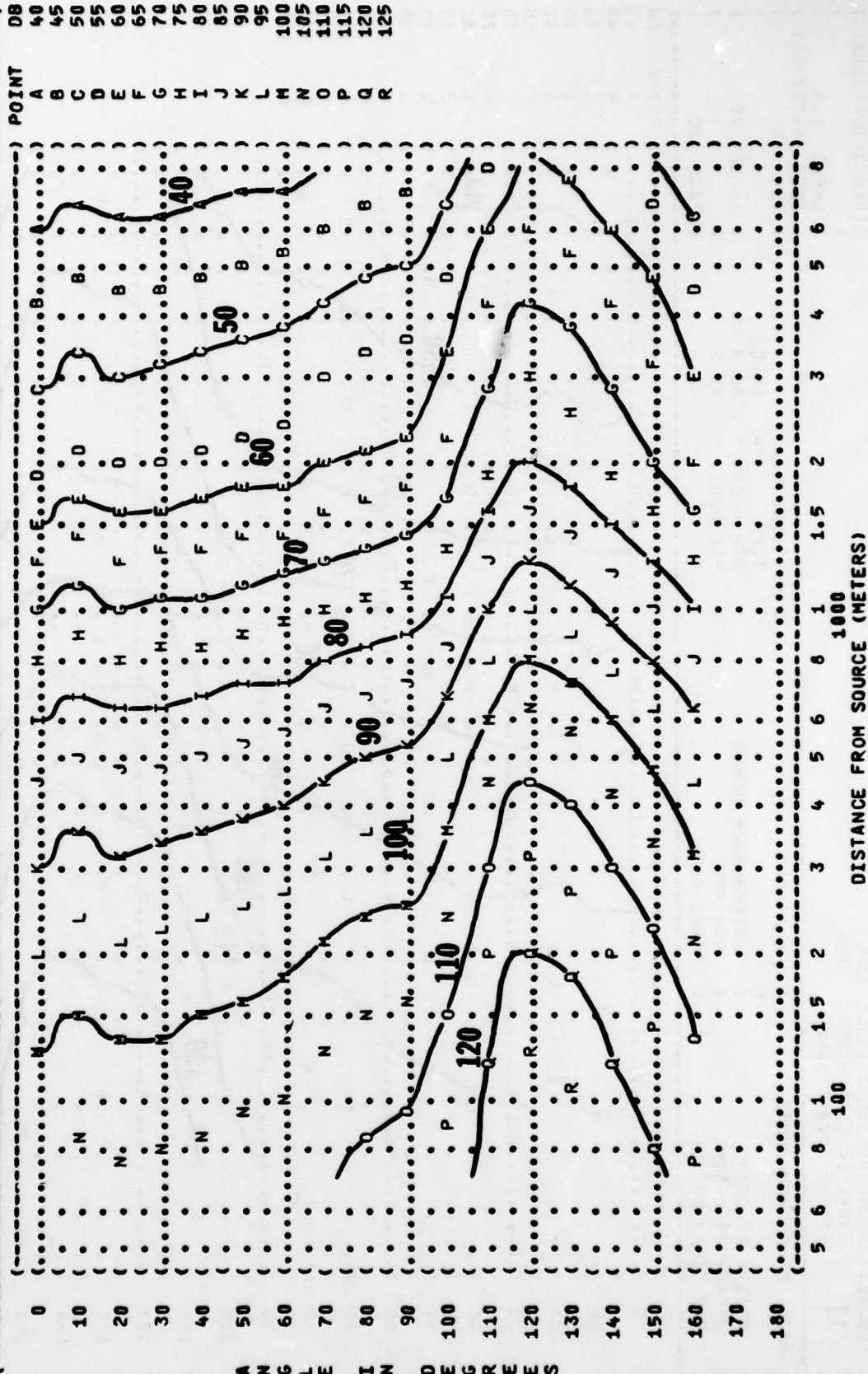




( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( AFTERBURNER POWER  
 ( J57-P-23A ENGINE ( 96% RPM  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 05  
 ( 18 SEP 78  
 ( PAGE 20



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( AFTERBURNER POWER  
 ( J57-P-23A ENGINE ( 96% RPM  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 21  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 05



IDENTIFICATION:  
OMEGA 1.4  
TEST 78-012-00

## 1) METEOROLOGY:

TEMP = 15 C

18 SEP 78

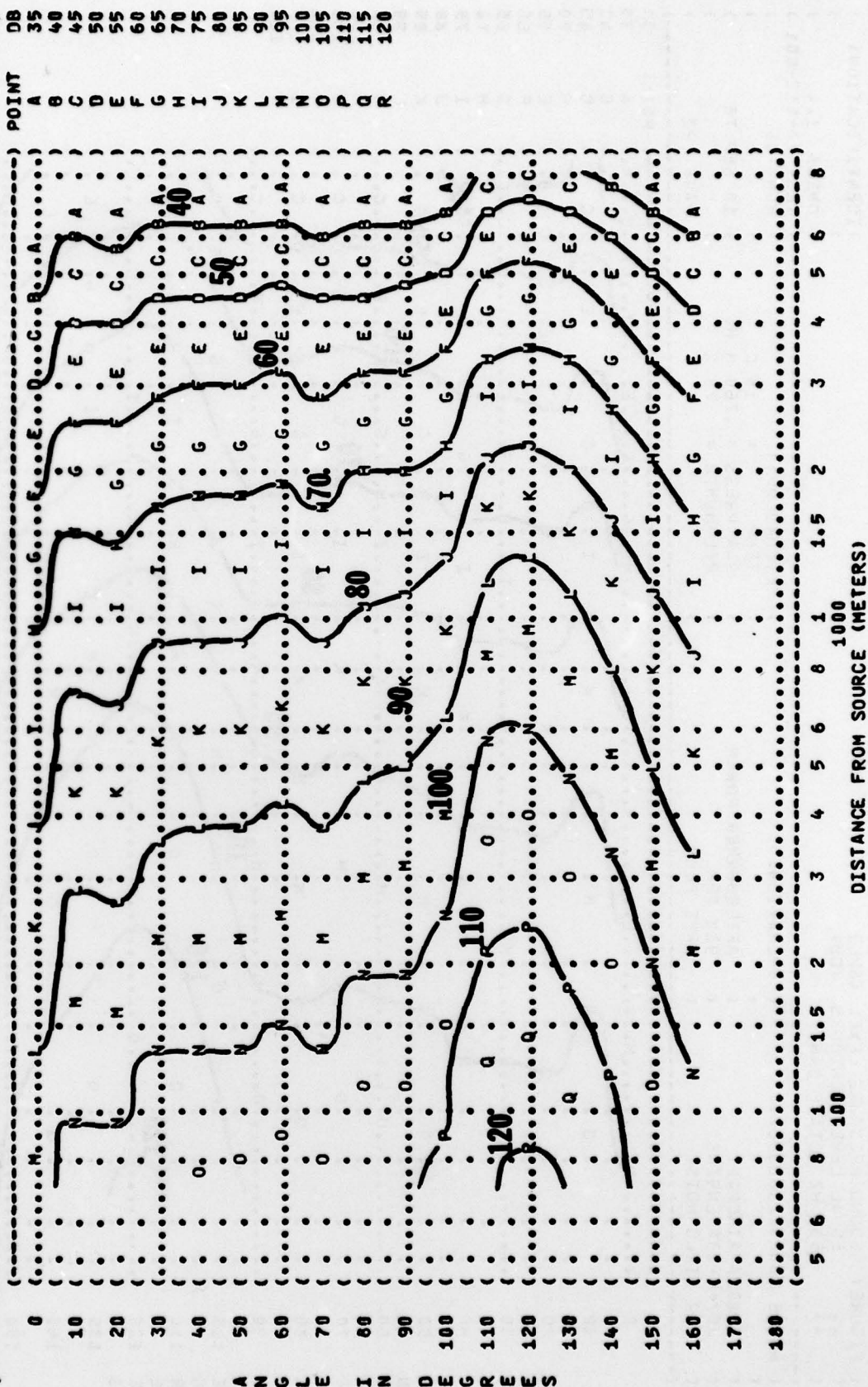
REL HUMID = 70 %

PAGE 22

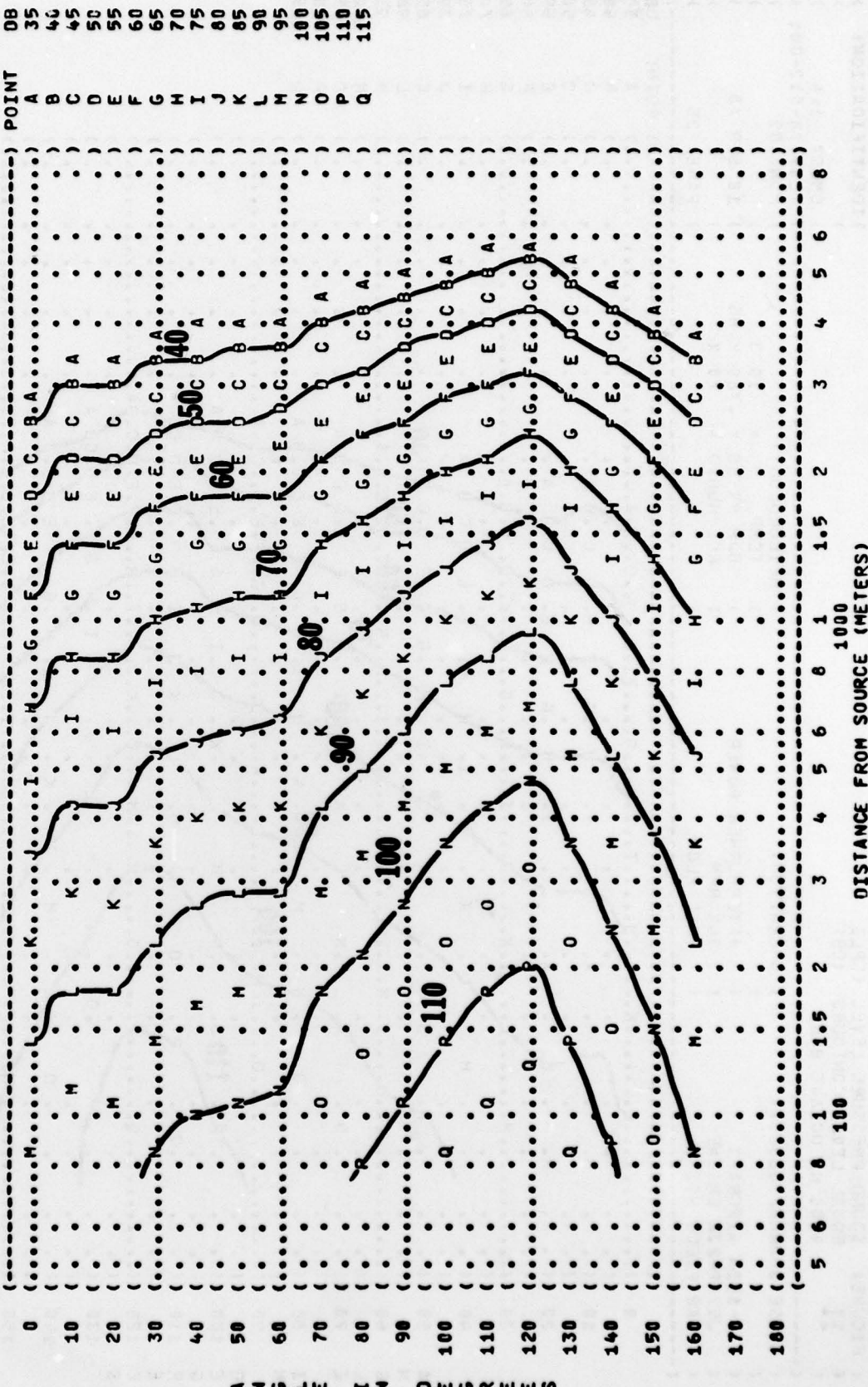




( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 1000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( F-102A AIRCRAFT )  
 ( J57-P-23A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( AFTERBURNER POWER )  
 ( 96% RPM )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 70-012-001 )  
 ( RUN 05 )  
 ( 18 SEP 78 )  
 ( PAGE 23 )



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( F-102A AIRCRAFT ( AFTERBURNER POWER  
 ( J57-P-23A ENGINE ( 96% RPM  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( 18 SEP 78  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 78-012-001  
 ( RUN 05  
 ( PAGE 24

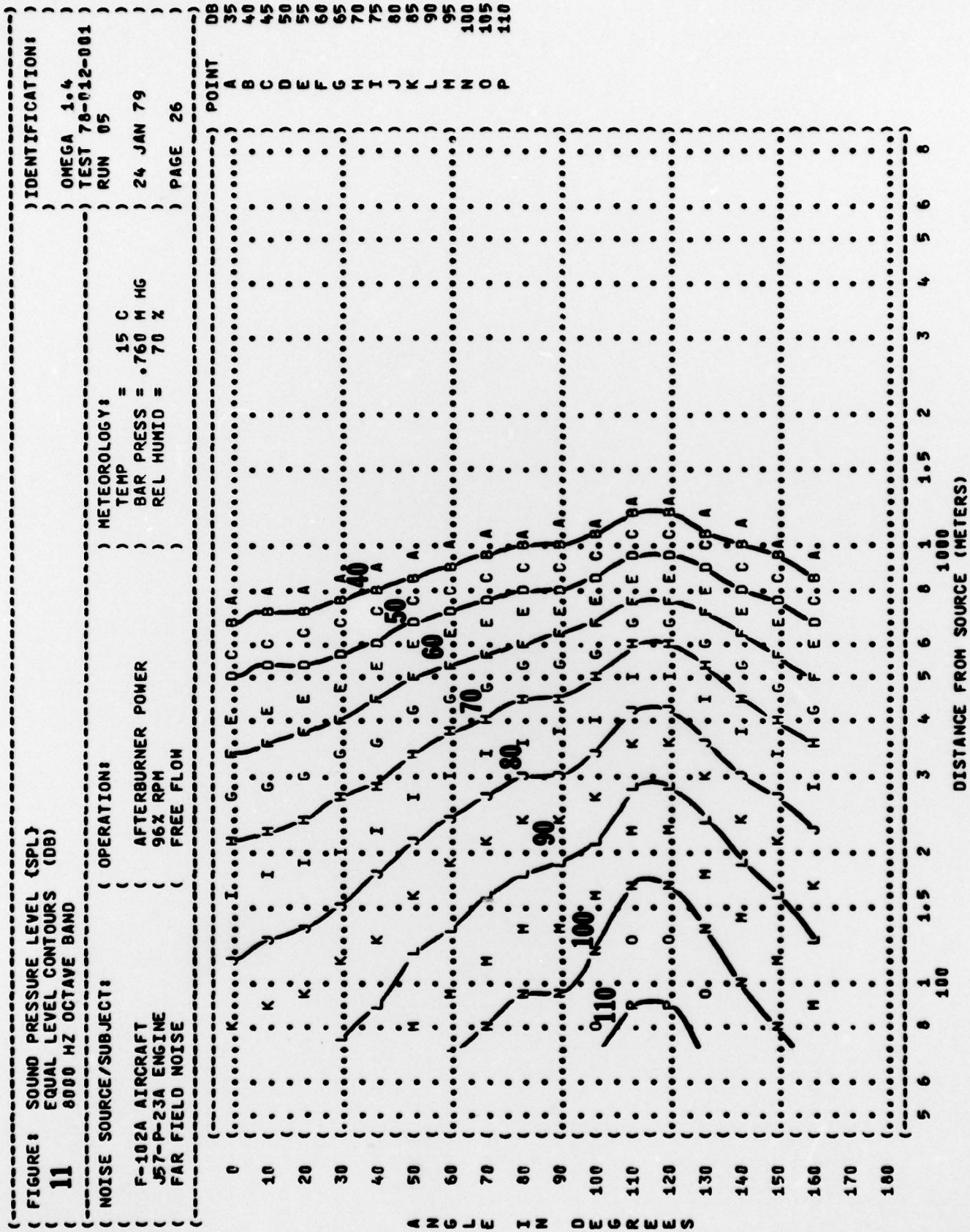


DISTANCE FROM SOURCE (METERS)









AD-A073 618

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK VOLUME 138  
F-102A AIRCRAFT NEAR. (U) AEROSPACE MEDICAL RESEARCH  
LAB WRIGHT-PATTERSON AFB OH R G POWELL OCT 78

UNCLASSIFIED

AMRL-TR-75-50-VOL-138

F/G 1/3

NL

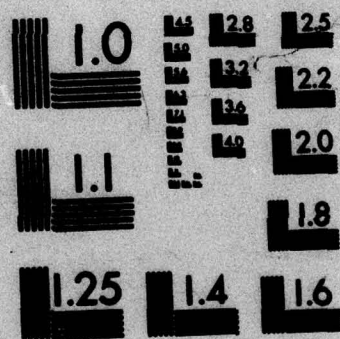


SUPPLEMENTARY  
INFORMATION



END

FILMED  
J 81  
DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



**SUPPLEMENTARY**

**INFORMATION**

NOTE AND ERRATA

FROM: AFAMRL/BBE  
Wright-Patterson AFB OH 45433

TO: USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK USERS

1. This box contains 19 volumes (Batch #7) of AMRL-TR-75-50, USAF Bioenvironmental Noise Data Handbook.
2. An updated Handbook Index will be published and sent to you within six months.
3. This office will no longer publish or be responsible for any additional handbook volumes. Questions concerning any data published in the handbook by AFAMRL will be answered by calling AUTOVON 785-3605 or commercial (513) 255-3605.
4. ERRATA:
  - (1) ~~A pen and ink change to Volume 62, page 4, first line, change "helicopter" to "aircraft".~~
  - (2) ~~Replace pages 10, 11, and 12 of Volume 119 (C-135B) with pages enclosed in this box.~~
  - (3) Replace pages 10, 11, and 12 of Volume 138 (F-102A) with pages enclosed in this box.

AD-14073618



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)  
1/3 OCTAVE BAND

2

IDENTIFICATION:

OMEGA 3.2

TEST 78-012-001

RUN 01

28 SEP 82

PAGE F1

NOISE SOURCE/SUBJECT:

OPERATION:

F-102A AIRCRAFT

GROUND CREW

NEAR FIELD NOISE LEVELS

LOCATION/CONDITION

6/A

5/A

4/A

3/A

2/E

2/D

2/C

2/B

2/A

1/A

FREQ  
(HZ)

25	90	91	92	96	99	109	88	88	86	86	72<
31.5	91	90	92	95	99	111	89	95	89	89	82
40	88	86	93	97	103	112	89	87	87	87	73<
50	85	89	93	99	102	113	86	88	87	87	75<
63	87	89	93	100	105	112	86	90	86	86	79
80	86	95	96	100	106	116	85	86	84	84	75<
100	93	107	99	100	111	117	93	89	91	91	76<
125	82	88	98	101	109	117	85	84	83	83	75
160	86	91	96	104	113	120	86	83	83	83	77
200	86	95	95	102	112	120	85	86	85	85	77
250	86	91	94	101	111	118	87	89	88	88	81
315	88	96	93	101	110	117	86	91	87	87	76
400	84	91	103	105	113	118	84	87	86	86	80
500	87	92	97	105	115	119	86	86	86	86	84
630	95	95	96	104	119	121	90	86	88	88	85
800	98	98	101	104	120	122	90	90	89	88	88
1000	95	97	99	104	119	122	89	87	88	88	85
1250	95	100	109	104	117	121	93	88	91	91	85
1600	88	98	113	104	115	120	86	87	86	86	86
2000	88	98	103	109	114	119	86	87	85	85	87
2500	91	101	102	103	114	119	90	91	89	92	92
3150	88	99	107	103	113	119	86	86	85	92	92
4000	89	100	103	106	113	118	87	85	85	92	92
5000	85	97	102	102	111	116	83	82	81	89	89
6300	84	96	102	104	110	115	82	81	80	88	88
8000	81	93	101	103	110	114	80	78	77	87	87
10000	78	89	102	103	110	112	77	76	75	84	84
OVERALL	105	112	117	117	128	132	102	102	101	100	100

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
OCTAVE BAND											
2										OMEGA 3.2	
NOISE SOURCE/SUBJECT:										TEST 78-012-001	
( OPERATION:										RUN 01	
(											
( F-102A AIRCRAFT											
( GROUND CREW										28 SEP 82	
(											
( NEAR FIELD NOISE LEVELS										PAGE J1	
(											

## TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2

TEST 78-012-001

RUN 01

28 SEP 82

PAGE H1

NOISE SOURCE/SUBJECT: ( OPERATION: )

F-102A AIRCRAFT

GROUND CREW

NEAR FIELD NOISE LEVELS

LOCATION/CONDITION

1/A 2/A 2/B 2/C 2/D 2/E 3/A 4/A 5/A 6/A

## HAZARD/PROTECTION

C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR

A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR

MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

NO PROTECTION

OASLC 104 111 117 117 128 132 101 101 100 99

OASLA 103 110 118 116 127 131 100 99 98 100

T 18 5 5 P P P 30 36 42 30

MINIMUM GPL EAR MUFFS

OASLAS 78 87 90 92 102 107 76 76 73 73

T 960 285 170 120 21 9 960 960 960 960

AMERICAN OPTICAL 1700 EAR MUFFS

OASLAS 73 82 85 87 96 102 72 71 71 67

T 960 679 404 285 60 21 960 960 960 960

U-51R EAR PLUGS

OASLAS 78 82 89 89 102 105 74 73 73 71

T 960 679 202 202 21 13 960 960 960 960

AMERICAN OPTICAL 1700 EAR MUFFS PLUS U-51R EAR PLUGS

OASLAS 65 69 76 76 88 91 61 59 59 58

T 960 960 960 960 240 143 960 960 960 960

H-133 GROUND COMMUNICATION UNIT

OASLAS 76 83 90 88 99 103 73 72 71 73

T 960 571 170 240 36 18 960 960 960 960

## COMMUNICATION

PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)

PSIL 97 102 109 110 121 125 94 93 92 91

## ANNOYANCE

PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)

TONE CORRECTION (C IN DB)

PNLT 116 126 133 132 140 144 115 115 113 115

C 1 2 3 2 1 0 2 2 1 1

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

P ADDITIONAL EAR PROTECTION REQUIRED.